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ORIGINAL LECTURES.

THE TREATMENT OF SPASTIC PARALYSES.

A Clinical Lecture,
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GENTLEMEN: There are now in the wards five cases, all of which exhibit in various degrees what I am apt to describe as the "lead-pipe leg." By this I mean that the limb resists steadily passive motion, and resists in proportion to the abruptness of the force used. As you flex or extend it the resistance felt is like that offered when you bend a bar or pipe of lead. The patient is powerless to relax the member.

These cases all present, as a rule, the symptom of excessive tendon-jerk from a blow or even a faint tap on the tendon of the quadriceps, or that of the gastrocnemius. The ankle clonus is also easily obtainable, and in extreme instances a clonus of the extensor mass of the leg.

In some of these patients the electrical muscle responses to faradic currents are exaggerated, and in most of them the muscle-jerk caused by a direct blow of a percussion hammer on the side of the hand is too ready and too extreme as compared to the muscle-jerk of health.

We also observe that the tendon-jerk, the clonus, which is only a form of that phenomenon, and the muscle-jerk may in most of these cases of spastic trouble be abruptly increased by reinforcements. These are either motor or sensory. This is only an extreme illustration of a fact easily observable as concerns any of the tendon or muscle-jerks of health. Thus, if in a spastic case we cause the patient to cough or make a grimace or violently shut a hand, or if we pinch him anywhere and we time the blow on the muscle or tendon so as to follow the distant voluntary act or the sensation at a brief interval, the jerk is largely exaggerated, and this reinforcement is greatly larger in the spastic case than in health, and is sometimes a help toward a complete diagnosis.

As a rule, all forms of reinforcement are in proportion to the amount of the knee, or in general terms tendon-jerk. If it be large, so is commonly the reinforcement. If it be lost the reinforcement, if present, is trivial. Both are tests of the muscular excitability and of the integrity of the nervous arc, and also more or less of the relative irritability of certain spinal centres. When we learn more of the tracks followed by reinforcing energy, whether motor or sensory, we shall no doubt find in this evolved symptom an important ally in diagnosis.

The resistance symptom, like others seen in the spastic group, varies in degree, and is due to the fact that in bad cases every effort to bend or extend the limb affected excites the muscle, or centres which control it, and is an extreme indication of that excitability which is seen in the exaggeration of knee-jerk and in clonus. When also the will is used to flex or extend these muscles there is the same result, the opponent muscle, which should relax, does just the reverse thing, and as it is stretched offers a positive resistance, which accounts in a measure for the peculiar gait of those cases in which the spastic state involves both groups of muscles in the legs. When only the flexors or extensors are affected, a rare condition, not well understood as yet, the walk is very peculiar; but as I have no mind to-day to do more than so to introduce the matter as to be able to speak of treatment, I shall not pause too long over the varieties of the disorder.

The spastic state may be due to cerebral disease and secondary degenerative spinal changes, to the extreme degree of this seen in some of the spastic disorders of childhood which are so enduring, to local disorders of the cord, to pressure by growths, or to sclerosis of the lateral columns, and, lastly, we can produce artificially a condition in which clonus is possible, knee-jerks and ankle- and muscle-jerks are excessive, and which will even enable us to evolve the "front tap" of Gowers, never present, according to that able author, except in disease. The condition of excitability described was brought about by Dr. Morris Lewis and myself by combining all the means capable of causing reinforcements, as galvanism to the head, pain, and violent muscular motion. With this combination we get in a degree all the extreme phenomena of spastic cases except the muscular resistances, but these we could hardly hope to find, as the condition of excitation is of necessity brief, and leaves but a moment in which to examine results. Near to the close of an epileptic fit we sometimes have a like state of increased tendon-jerks, capacity to evolve clonus, and even some resistance to flexion, but in a few moments a reverse state may be seen of lowered or abolished reactions. Probably the excitability may be due to the reinforcements caused by the convulsing discharges.

I have no intention here of going deeply into the question of the immediate causes of the spastic state, whether pathological or temporarily induced. It will be answered when we know more of the tracks followed by reinforcing energy, and when we have studied the time required for its effects and are absolutely clear as to whether tendon-jerks and muscle-jerks are due to mere induced muscle states or represent unusually rapid reflexes.

I have brought the matter before you in order to call attention anew to methods of treatment which apply not only to almost all chronic and non-progressive forms of spastic paralysis, but also to the forms seen in childhood or adult life as a consequence of hemiplegia, and associated or not with post-paralytic chorea.

Without now concerning ourselves with remote causes,

and they vary with all of the cases in our wards, let it suffice that the muscles in these people react too easily. Behind the spasm, so to speak, there is very often, but not always, a degree of true want of power, so that if, by bromides and very prolonged massage, you temporarily wear out the spasticity, you find that the patient can no longer stand; you have taken away the spasms which splinted the limb and made the upright state possible. But in many non-active cases, which are chronic and unchanging, there is still volitional control enough to enable the patient to profit by a lessening of the spastic state. You can do little good in progressive cases, but much good in others; and I am glad to give you the lesson with examples of success, because as a rule in the chronic spastic palsies of childhood, either there is reckless tendon cutting and braces and nothing else, or no treatment at all beyond circumcision, which in my large experience has been very rarely of value, and is applied remorselessly at some time, by some one, to nearly all the cases in childhood which I chance to see. True functional spastic states from genital irritation must be most rare.

I have here to-day no illustration of those horrible spastic palsies due to rapidly progressive irritative diseases of the cord. They present for you in an extreme degree all the symptoms I have mentioned, and some which I have not dwelt upon. Massage used gently at first and skilfully increased, is a comforting agent in these advancing cases of painful spastic palsy, but it must be most skilfully used. It is a comfort, and no more. When employed in conjunction with large doses of bromides, it may lessen spasm temporarily.

There is, however, another method of manipulation which has real and permanent utility in an uncertain proportion of spastic cases, and seems to act, in part at least, by rendering the muscles less susceptible to the agencies which over-excite them.

If I place this man, who has excessive knee-jerk, on his face, with the thigh rather overextended, and then flexing the leg on the thigh, strike the patellar tendon, I get a violent response. As I bend the leg the reply lessens, until, at a certain point, it ceases altogether. If, keeping the knee in the same position, I now relax the tension on the quadriceps, by lessening the angle of the thigh to the trunk, the knee-jerk returns; it was, therefore, lost, not because we had mechanically interfered with a favoring position of the tendon, but because when we overstretch a muscle it loses power to react when its fibres are suddenly excited by the abrupt little pull you make on them by a blow on the tendon.

This fact is true of the normal knee-jerk, and of the excessive reaction of a spastic case. A certain amount of tension seems to render a muscle less able to respond to excitation. It is true of a blow, and it is true of electricity, as Dr. Lewis and I have shown. It occurred to me that extreme and frequent extension might lessen more permanently the exaggerated excitability of muscles, and from time to time I have tested this hypothesis. I conclude to-day that muscular extension is of use in all cases of hyper-excitable muscles, but that it does best in the typical spastic palsies of childhood, and in such other forms as are pathologically non-progressive. That the process is in these cases useful is for me now past doubt, and when I say that it is useful, I mean that it distinctly adds to the comfortable locomotility of my patients.

I am by no means sure that the reasoning which led up to the use of this simple method was correct, but sometimes in medicine one walks with measured steps up to a truth, and sometimes one stumbles across it.

The plan I shall here describe is very simple, and may have been described before, and methodically used. Let me add that it helps but does not cure.

Every muscle concerned is to be put twice a day, and over and over in a condition of extreme extension by a series of manipulations easily taught to a strong nurse. An example will save a too elaborate description. The girl I now show you is accustomed to the process, and I shall use her as an illustration both of the means and its resultant value. Her clothes are somewhat in the way. The patient should be so far undressed as not to interfere with extremity of movement.

Placing her on her back, the nurse takes the foot in her lap and moves each toe in flexion and in extension, steadily and to the limit of endurance, and then slowly lets it go back to rest. Next the ankle is flexed to the limit with the knee in extension, then the knee is flexed and the foot carried firmly into prolonged extension; lateral motions follow. The leg is then fixed strongly but with deliberate slowness, the patient being on her face, and the thigh in extension, and while still in the same posture the nurse puts a hand on the buttocks and pulls the thigh back, or sets a knee on the buttock and gently pulls the leg up from the bed, so as to stretch the quadriceps. The anterior thigh muscles may also be stretched by putting the patient on her back half off of the bed with a pillow under the pelvis, and by pushing the leg downward. The lateral motions to stretch the adductors are managed best by two nurses, but it is easy to effect them by sitting on the bed or lounge between the limbs, and so with both hands forcing the leg into abduction, while the other leg is stayed by the body of the nurse. The stretching of the posterior muscles of the thigh is also easily done by lifting the whole limb while the leg is in extension on the thigh. All motions should be firm and slow, so as not to arouse resistance, and as time goes on, should be repeated more often, as the distress lessens. At first the pain is annoying, but as I never propose so to stretch as to elongate the nerves extremely, it need not be such as to forbid progress. Nearly all old cases have a certain brawn-like hardness of muscle, and no doubt one does in all cases stretch and disturb somewhat the small nerves imbedded in these firm and unrelaxing tissues; but this is very different from the violent and painful nerve stretching above alluded to.

Whatever it is that we do by this process, if it be regular, steadily used, and done with thought-guided skill, it is assuredly helpful, and while it does not cure it brings in the end remarkable changes.

The hardness of the muscles lessens, the tissues get softer and sweat better, are less dry, the gait improves, the limbs get warmer, and, what surprises one, the general condition is often ameliorated. When you have reached a limit, and after some weeks, the favorable changes cease, it is time to see what more can be done by tendon sections which, at this stage, I am willing to use freely. After the wounds heal, indeed, pretty early, I return for a few weeks to the extensions, and train the

patient to imitate them, which, with the least ingenuity, is easy enough.

In many of the spastic palsies of childhood which follow a series of convulsions, or are due to some intracranial trouble of uterine life, you will find that some muscles are spastic, some less so, some contracted and inert. According to their condition and electrical and other reactions, are they to be dealt with. Some need extension, some want to be electrically stimulated, and need also massage. Each muscle and group must be considered, and the wants provided for. It is troublesome. It needs patience. It exacts intelligence—but it wins in the end. It is easy to cut off a prepuce or to put on a brace. But a brace is a prison, and I think a good deal before I condemn a muscle to its confinement.

I show you here a valuable group of cases. One, a man with an obscure spinal malady, probably sclerosis, has been at a stand-still for years. I failed to help him once, now I am trying again with new lights, and he insists that his gain is great. This case is hard to handle, because he is heavy, and the muscles strong. I cannot largely aid him. The second case was here years ago. I dismissed it in disgust, having simply done no good. Readmitted at my desire, she is here to illustrate a half year's result.

The patient, a girl of seventeen years, walks now before you. Observe the body rocking on the too rigidly held pelvis, the legs bending with effort, the jerk of the body as the foot falls, and the spasm of the gastrocnemius which refuses to let down the heel, so that she swings along, rocking on the ball of the foot. This symptom, which is so characteristic, is worth a moment's study.

If you put this girl on her back the limbs will still be spastic, but not as they are when she puts weight on the sole, the pressure at once increases the tendency to spasm. It is a reinforcing sensation, and radiates to the cord impressions which, as they reach the ganglia concerned, add to their abnormal excitability. It is no wild conjecture that this represents in excess a normal phenomena, and that in health pressure on the sole sends reinforcing energy into the ganglia, by aid of which we stand and walk. Years ago I failed with this case, which originated in prenatal troubles of which we know but little. A few weeks here of late have lifted her in health, abated her nervousness, increased her weight, and put her in a state to do manual work, despite the tremor you observe, and the persistence, in lessened degrees, of all her previous conditions. There is gain, not cure. Of late I have given her cod-liver oil, and now shall cut the tendon of the left gastrocnemius. The other heel comes well down at present, as it did not do a month ago.

I show you here a nice lad, æt. fourteen. Born at seven months, he held up his head at the end of a year. At his fourth year he could walk with difficulty—seizing at objects and often falling. This is a typical case of spastic disease from some obscure intrauterine disorder. When he came to me he was as now—clever and intelligent—but he fell about, could walk but a little without great fatigue. His thighs on violent adduction chafed one another, and he rose on his toes and pitched about in his walk. With his eyes shut he fell at once, and at no time was his equilibrium preserved save at the cost of great effort. The thigh adductors were stiff and hard, and the gastrocnemii were also abnormally firm. He had been braced by many doctors and then sent off to improve as he might. Of course, he has been circumcised. It did not do the least good. I have rarely seen a less promising case.

January 1, we began extensions and in the hands of a practised and thoughtful masseur, Mr. Penington, he showed good results in a fortnight. As he gained he was trained to stand with shut eyes, which did good. After two and a half months of persistent extensions he ceased to gain rapidly, and now I was able to know what tendons to cut. Dr. Wm. Keen divided for me the semitendinosus and semimembranosus on both sides, also the adductors of both thighs just below their origins.

In a few days later we resumed the extensions, and once more there was a new increment of gain. He still walks with his legs slightly flexed, and still stoops over his pelvis, but he can straighten both the legs and the trunk, and being interested and a lad of character will, by and by, and continuously gain in power and position. His temper has improved, his tendency to emotional expression passed away, and he has now ability to walk for two or three miles without aid of any kind. I never see him without a sense of pleasure at the gains thus acquired for an interesting lad.

I neglected to say that he had some distinct quantitative loss of faradic electric response in the lumbar muscles, and the flexors of the feet. These were treated by electricity and with positive improvements, which were aided by massage used only for the muscular groups in question.

I have said elsewhere that cases of spastic trouble in women are apt to wear the mask of hysteria, and to be excessively puzzling. I have seen a curious illustration of this but lately, and am glad here to relate this instructive case.

In the early winter, Dr. Sutton, of Pittsburg, Pa., confided to my care Miss C. L., of K. city, æt. twenty-nine. At twelve she had typhoid fever, and pneumonia thirteen years ago. From 1879 to August, 1883, she had asthma frequently, but it left her abruptly, and she had unusual good health until February, 1884. She was then attacked in the night, without known cause, by severe pain in the sacral and lumbar regions. This came and went up to August, 1886. It was at times absent—at times severe—a sense of weight, quite often unendurable. The pain had no relation to menstruation, which was regular and free from discomfort. During the year which followed she had less and less pain, but more and more difficulty of movement in rising and walking, and at times numbness in the hands and feet—which was, however, a transient symptom until early in December, 1886, when suddenly she became aware of abrupt loss of sensation in the right leg to the knee. About this time she began to feel a decided and constant sense of constriction around the abdomen, and to exhibit a more and more awkward gait.

February 8, 1887, I examined the case with these results:

The thoracic and abdominal viscera healthy. The secretions normal. Defecation natural. Slight difficulty in micturition. Menstruation regular and free from grave troubles.

Her mind was clear, her memory good, and her emotions under control, not a trace of hysterical tendencies, in fact, a well-balanced person. She was free or nearly free from the girdle symptom, but at times it was distinctly and disagreeably felt. Otherwise she had no pain and for months no sacral pain. To my surprise and hers, I discovered that she had entire analgesia with the exception of a region such as would be left uncovered by a ball dress rather low in the neck. Thus the normally sensitive territory dipped between the breasts and left them analgesic, crossed the shoulders and descended the spine in a narrow strip to the sixth dorsal vertebra. The boundaries were sharp and did not change, so that the neck, shoulders, and head were perfectly possessed of all forms of feeling. Below these, as I have said, there was no sense of pain. Pins could be buried in the flesh. Violent faradization of nipple or nail regions caused no annoyance. Cold was felt as heat in the legs, heat was not felt or dimly felt as heat, except in the soles, where high temperatures were known to be heat. Touch was everywhere indistinct, the toes were not distinguished correctly, and touch was usually referred to a point nearer the centre.

No pin-prick bled within the analgesic spaces even if the pin were of very large size. Vision was normal, the color field healthy. The plantar reflex persisted. The faradic and galvanic reactions seemed to be distinctly below the normal standard, and the responses came tardily, but, of course, comparisons were difficult as both sides were affected.

Her gait was curious and was like an extreme exaggeration of the motion of a woman with unusual breadth of pelvis. There was also the spastic element, the toes struck the floor as she moved forward, and at each step she was lifted abruptly by the spastic action provoked in the gastrocnemius by the pressure of the sole on the ground. She could not rise unaided nor walk without help. With shut eyes she fell at once. The knee-jerks and muscle-jerks were extreme and easily and largely reinforced. Very marked ankle clonus existed on both sides with exaggerated muscle-jerks. The left arm and hand were weaker by one-half than the right, but the reverse obtained as to the power of the lower limbs.

The combination of a mild form of spastic paralysis with analgesia, the girdle symptom, the absence of sphincter troubles all contributed to make this case somewhat bewildering. My friend Prof. Horatio Wood saw it with me twice. It seemed to us probable that there had been some distinct organic disease in the lumbar region of the cord; as to its nature we could hardly do more than guess. It was our belief that to this had been superadded symptoms which we should usually describe with little hesitation as hysterical despite the utter absence of a hysterical history or temperament, and of emotional causative disturbances.

Of this lady I was happy enough to make a good cure. Under the use of the wire brush and secondary induction currents with powdered skin, the analgesia disappeared in a few weeks. It faded in irregular spaces and at last none was left. The spastic muscles were treated by extensions, and as the spasms lessened more and more general massage was used. Absolute rest was preserved for two months and then followed a graduated course of muscle training and of exercise with shut eyes. Long after she was up I insisted on crutches to enable her to save labor for the legs and to lessen weight on the soles. She now walks fairly well, has no clonus, no pain, and is free from analgesia and gaining in vigor every day.

ORIGINAL ARTICLES.

EVERGREEN FORESTS AS A THERAPEUTIC AGENT IN PULMONARY PHTHISIS.[1]

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IF one studies the literature of medical climatology, he will find very few well-established facts, or even plausible theories, which satisfactorily explain the beneficial effects of change of climate upon pathological processes. Even the climatic treatment of phthisis, upon which the most careful attention has probably been bestowed, must still be regarded as unsettled.

We are unable as yet to formulate any exact statements as to the influence of even the more potent elements of climate, such as light, heat, and moisture, while our knowledge of the more obscure and imponderable factors is still more uncertain and chaotic.

Even the nomenclature employed by medical writers is inexact and confusing; the terms cold and warm, severe and mild, moist and dry may each individually find exact expression in figures, but one very soon becomes convinced from his clinical experience that their various combinations can be described in no such definite terms, and that purely meteorological factors are, in themselves, of little value in elucidating the subject, or in leading to safe conclusions.

Neither the density of the atmosphere, the amount of moisture, the equability of the temperature, the barometric oscillations, nor the amount of sunlight, are sufficient data from which to deduce the climatic influence of any locality; for clinical observations have established the fact that places having similar climates, so far as can be determined by their topography and meteorological conditions, have very different therapeutic effects.

As previous investigations have given us full and exact knowledge of the physical elements of climate, the necessary inference from a clinical standpoint was, that there are other unknown agents which either by their presence or absence determine in a large degree the results obtained in different climates. Modern pathology has given definite form to this clinical deduction.

The revelations of the microscope in the field of bacteriology, have made clear many obscure points, and given a strictly scientific basis to much empirical practice, especially in the treatment of pulmonary phthisis.

All recent writers on climatology seem to agree that the chief factor, and the one common to all localities that furnish favorable results in pulmonary phthisis, is purity of atmosphere. Formerly this

[1] Read before the American Climatological Association.

term applied almost entirely to purity of physical composition, but more recently, and in the light of advanced pathological investigations, it has come to imply freedom from those floating particles derived from inorganic as well as organic sources, which appear to the naked eye as motes in the sunbeam.

In air which has been rendered impure by the crowding together of human beings, these germs are found in such quantities as to be sensible to both smell and taste, although a large portion are so minute as to be beyond the power of the microscope, and can be detected only by solar rays. Dr. David Young, in his book on the *Tuscan Hills*, says: "Many of these minute organisms are now well known; and, besides playing a very important part in the causation of disease, they likewise fulfil many functions, not only invaluable but necessary to life. They are the essential agents in the digestion of our food, they make our bread, and turn our grapes into wine, without them our crops would not grow, and much of our dairy produce would be valueless. This teeming world of microscopic life thus contains innumerable agents of minutest form, highly serviceable to man, and many which are equally hurtful, and even fatal to him. Could we discover the means of destroying the latter, mildew and blight would disappear, and many infectious diseases would be unknown."

That there is some intimate connection between the development of the microörganisms of disease and atmospheric impurities, every day's clinical experience seems conclusively to establish. Dr. Angus Smith, in his work on *Air and Rain*, states that we have in the air organized living things which are capable of planting colonies wherever they can find food. These spores may be divided into many classes, the useful and the deleterious, those which promote health, and those which bring disease. The idea of any of them bringing health is not founded on anything positive, but we can scarcely imagine these numberless forms to be all useless. The idea that they bring disease is well confirmed, and ought to be the study of the medical professsion.

All varieties of putrefactive bacteria may have an atmospheric origin, and it is reasonable to suppose that the so-called specific bacilli may have a similar origin. It is to be remembered, however, that I am not now discussing whether the cause of disease be an organic substance formed in the process of decomposition, or an organic germ. But the tendency of inquiry in modern times has been to establish the belief that decomposing substances, both animal and vegetable, produce disease, and are intimately connected with infection and the production of those contagious germs whose absence renders any atmosphere pure or aseptic; such an air must act negatively, rather than positively, if its therapeutic condition be simply that of freedom from septic elements.

Considering, however, the rapidity with which all septic germs multiply, the innumerable sources of their supply, and the freedom and ease with which they are disseminated over large areas, it seems almost necessary to suppose the presence in aseptic atmospheres of some antiseptic agent. Extreme cold and high altitudes render air aseptic without the presence of any material antiseptic element, but the degree of the one and the extent of the other necessary to produce asepsis are such as to preclude their general employment in the treatment of septic diseases; moreover, clinical experience has shown that such an aseptic air has a less powerful curative effect upon ulcerative and suppurative processes than one in which the aseptic condition is due to the persistent presence of some antiseptic agent of sufficient power to destroy existing septic germs.

The air of high altitudes is aseptic; that of the sea is antiseptic by reason of the bromine and iodine which it contains. Since then the clinical fact is well established that phthisical processes go on far more rapidly in an impure or germ-laden atmosphere, the question is constantly coming to us, Where can we find an atmosphere that is aseptic because it is antiseptic, into which we can send our patients who are suffering from tubercular disease?

Having long since been convinced by my observations that evergreen forests have a powerful purifying effect upon the surrounding atmosphere, and that it is rendered antiseptic by the chemical combinations which are constantly going on in them, I invite attention to some conditions existing in such forests, which may explain their therapeutic power.

The belief that the atmosphere of evergreen forests has a curative effect upon persons suffering from pulmonary phthisis is a very old one. Dr. Walsh, in his works on *Diseases of the Chest*, states that the old Romans sent patients with ulcerated lungs to Libra, where, by breathing the balsamic effluvia of the pines, with which the country abounded, they were said to have lived many years freed from their complaints.

The atmosphere of pine forests has always been regarded as most favorable to consumptives by the non-professional public, and there is usually some good ground for a widespread and long-standing non-professional belief in the therapeutic efficacy of any locality. Various attempts have been made to explain the beneficial effect of these forests, some have attributed it to the sedative influence of the terebinthinate vapor constantly floating in the air of such localities, which, by its action on mucous surfaces, arrests diseased processes; others have attributed it to the deoxygenation of the air by the terebinthinal vapors; others to the action of resinous aromata; and still others, to some change in the electrical condition of the atmosphere, the result of the friction of the air against the sharp needles of the evergreen trees.

Such ambiguous terms as "balsamic influence," "health-giving emanations," and "aromatized atmosphere," must be regarded as empty phrases, and meaningless as scientific explanations. The clinical evidence, however, of the beneficial effects of pine forests on phthisical subjects is unquestionable, and it has been accepted by most careful clinical observers that they are an important adjunct in the treatment of phthisis.

The changes attributable to the persistent inhalation of air impregnated with the emanations of such forests are such as to indicate that the atmosphere is not only aseptic, but antiseptic, made antiseptic by

some element which is not alone fatal to germ life, but at the same time is stimulant and tonic to normal physiological processes within the lung. Such an antiseptic the chemical laboratory has thus far failed to supply; but as we weigh carefully the facts presented to us in the study of this subject, we are led to the conclusion that this antiseptic element of evergreen forests, an element which is not found elsewhere, is the product of the atmospheric oxidization of turpentine.

It is well known that the turpentines alone have been regarded as of special service in the treatment of all forms of catarrh, especially catarrh of the respiratory surfaces. Atomized solutions and vapors of turpentine have been employed by inhalation in all forms of disease of the respiratory organs, and its internal use has long been regarded as a most valuable remedial agent in the treatment of infectious diseases. Its use in all these different ways has been, to a certain extent, empirical. Dr. Ringer, in his *Handbook of Therapeutics*, states, in addition to its other effects, that turpentine acts antiseptically, passes readily into the blood, and may be detected in the breath and perspiration, and in an altered state appears in the urine, giving it an odor of violets or mignonette.

Recently terpine, an active principle of turpentine, has been employed in antiseptic surgery, and has proven a most powerful deodorizer and antiseptic, both within and without the body. From these and many other similar facts which might be quoted, it would seem evident that the local and constitutional effects of turpentine are those of a powerful germicide as well as stimulant. Its presence in the atmosphere of pine forests cannot be questioned. Again, ozone is said to be present in excess in the air of evergreen forests, and the beneficial effects of such an air have been ascribed to this substance alone. Soret states that when ozone is brought into contact with turpentine, the whole molecule of ozone is absorbed and no oxygen remains, so that it seems evident that there is a close relation between an excess of ozone in the atmosphere and turpentine exhalation.

Recently the disinfectant property of peroxide of hydrogen has been attracting attention, and it has been shown that it is either fatal to certain forms of germ life or that it renders them inoperative, so that putrefaction processes are arrested or prevented. The oxidizing and antiseptic power of the peroxide of hydrogen have been proven by numerous experiments, among which may be mentioned those of P. Regnard (*Gazette Médical*, 1880).

The researches of Saböni, made near Moscow, published in the *Bericht Deutsch. Chem. Gesel.*, vol. viii., and abstracted in Pettenkofer and Ziemssen's *Handbuch*, have proved beyond question that peroxide of hydrogren is almost certainly present in varying amounts in the air and rain, and less frequently in snow and hail, and that the amount varies with the season, with the wind, the amount of moisture and in different kinds of forests, the larger amount being found among pines. It has also been demonstrated that all kinds of aromatic plants produce it, and that many natural processes give rise to it which have been regarded as exclusive sources of ozone. As its tests are similar to those for ozone, it has doubtless been mistaken for it, as experiment shows that if turpentine is heated in contact with a stream of air, peroxide of hydrogen is produced.

Mr. Kingsett states that it is probable that each molecule of the oil of turpentine gives rise, in the process of oxidation, to a molecule of the peroxide of hydrogen, and that when turpentine is exposed to the action of the atmosphere it absorbs oxygen and evolves a peculiar organic oxide, which remains dissolved in the turpentine, communicating to the surrounding atmosphere properties similar to those of the peroxide of hydrogen; also that by natural atmospheric oxidation of the terebinthinates, there is produced in extensive pine forests an almost illimitable amount of peroxide of hydrogen, which renders the atmosphere of such forests antiseptic.

The supposition that peroxide of hydrogen exists in excess in the air of any locality is thus based upon the presence in the air of such localities of the vapor of the oil of turpentine or of other allied substances. It has been shown by Schönbein and others that peroxide of hydrogen may be produced in large quantities by the combined action of air, light, and moisture upon ether, alcohol, oil of turpentine, and other essential oils, and it has been further shown that ozonized turpentine itself contains, not ozone, but peroxide of hydrogen. It seems evident, therefore, that an atmosphere containing the vapor of turpentine or allied substances would be richer in peroxide of hydrogen than that of other situations.

Since putrefactive processes within the pulmonary tissue, no less than in any other situation, are due to, or accompanied by, the presence of various forms of bacteria, the continual bathing of the ulcerated surfaces with such a powerful antiseptic as peroxide of hydrogen, cannot have other than a decided effect in arresting the formation of the products of decomposition. Dr. Clifton Allbutt says (*Lancet*, June, 1878): "For many years I have held that the majority of phthisical patients die of septicæmia, and that the arrest of this daily repoisoning is a primary object of treatment. To wash, cleanse, and dress ulcers of the lungs by surgical methods is impossible; if, however, there be an aseptic or antiseptic climate, we may hope to counteract this secondary blood poisoning, by sending our patients to live in it. If then an antiseptic atmosphere, although not fatal to the tubercle bacilli, will destroy the products of germ life of septicæmia and pyæmia, it will accomplish much in the arrest of phthisical processes.

The more recent developments in the (Bergeon) treatment of phthisis by gaseous injections, if they shall be found beneficial, are apparently due to the arrest of septic poisoning, and not to destruction of the tubercle bacilli. It is my belief that the atmosphere of evergreen forests acts in a similar manner, and the facts which I have brought before you from many sources, seem to prove that the antiseptic agent which so successfully arrests putrefactive processes and septic poisoning, is the peroxide of hydrogen, formed by the atmospheric oxidation of turpentine vapors.

The crucial test of medicine is not in the cure, but in the prevention of disease, and I fear that the terrible death-rate from pulmonary phthisis, which has so long defied the advances of medicine, will never be greatly reduced, so long as we confine ourselves to its cure, or attempt to destroy specific bacilli lodged in some endothelial cell or lymphatic capillary. These are the impregnable citadels of germ life. If we hope to destroy them or render them inoperative in phthisical processes, it must be done through the respired air.

It is not possible for every one to take his weak lungs to an aseptic air, but it is possible to render the air of most localities antiseptic; I therefore would impress not only the profession but the public, with the importance of preserving our evergreen forests, and of cultivating about our homes, so far as possible, evergreen trees.

Dr. Dobell states that wherever the pine, with its constant exhalation of turpentine vapor, and its never-failing foliage, can be distributed in a proper proportion to the population among the houses of men, the atmosphere can be kept not only aseptic but antiseptic by nature's own processes, independent of other influences than a certain amount of sunshine and moisture—elements which, like the pine itself, can be found wherever human beings can form a home.

EPISTAXIS.[1]

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I MAKE no apology for writing on a subject as old as man, for I have learned by experience that the busy physician is much less interested in what is unique than in that which is liable to occur at any time among his own patients. However, I will have but little to say of the forms of this affection with which all are familiar, but will report cases sufficiently rare to be of interest, yet withal so grave as to merit the most careful consideration.

Epistaxis has been treated of by medical writers since the earliest ages, but something of interest may still be said of it; for within our memory great advancement has been made in the means of accurate diagnosis, and corresponding improvements have come in vogue in the methods of treatment. At this time we need hardly consider the simple bleeding from the nose which occurs in nearly every child, with or without provocation, and which ceases spontaneously, like ordinary bleeding from the lungs, and is consequently readily cured by any of the mystic rites so well known by the public.

Epistaxis is occasionally met with, that, either on account of its frequent recurrence, or the large amount of blood lost, becomes a source of great inconvenience, or of actual danger to the patient. In young people the most common cause of epistaxis is picking scales of dried mucus from the nares. In old people degenerative change in the bloodvessels is a frequent cause, and during middle life excitement, direct injuries or strains, or vigorous blowing of the nose, acting upon an ulcerated or eroded mucous membrane, are the most frequent causes. Among the common, but less frequent causes, are changes in the constitution of the blood itself, obstruction to the circulation through the kidneys, liver, lungs, or other organs; and malignant or fibrous tumors of the nares or naso-pharynx. Inhalations of irritating dusts or vapors, and many other trivial accidents, are among the less important factors in causing the affection. In children or young adults the bleeding is often a safeguard which prevents the evil effects of plethora, and in women the hemorrhage may be but vicarious menstruation.

The hemorrhage which occurs in scurvy and low forms of fever is usually due to changes in the constitution of the blood, as is also that resulting from the hemorrhagic diathesis. Sometimes there exist not only changes in the blood itself, but also in the mucous membrane; as, for example, in diphtheria. Several other infrequent causes might be named, but these are sufficient.

In plethoric persons, and often in those suffering from the low forms of fever, epistaxis is preceded by a feeling of fulness of the head, flushing of the face, giddiness, tinnitus, and itching of the nose, which symptoms are relieved by the bleeding. In the majority of cases the blood flows from one nostril drop by drop, the amount lost with one attack seldom being more than half an ounce or an ounce, and then the bleeding stops spontaneously. But in serious cases the blood may flow in a stream, and in cases dependent upon blood changes it often comes from both nostrils. In these cases the amount of blood lost will vary from one to many ounces. Some patients have been known to lose several pints in two or three days.

As a result of frequent or severe hemorrhages the patients become weak and anæmic, and suffer from neuralgia, giddiness, and other symptoms of cerebral anæmia. In the more severe cases dangerous, or even fatal syncope, may occur; but when we consider the amount of blood that is frequently lost by these patients it is a matter of surprise that a fatal termination is not more frequent. However, before the introduction of the method of plugging the posterior nares for checking epistaxis deaths from this cause were not very uncommon. In old people bleeding of the nose from slight causes is a grave symptom, indicating degenerative changes in the bloodvessels, which, sooner or later, are liable to terminate in apoplexy.

In all annoying or dangerous cases a critical rhinoscopic examination should be made of the nares and naso-pharynx, in order to discover any local cause for the hemorrhage, such as erosions, ulcers, or morbid growths. Nearly always the physician will be rewarded for his pains by finding the source of the bleeding. The appropriate treatment for epistaxis is of two kinds, viz., that designed to check the hemorrhage at once, and that to prevent its recurrence. Usually, when epistaxis occurs in the plethoric, when it is a vicarious discharge, or when it is due to venous obstruction, as not infrequently happens in hepatic, pulmonary, or cardiac disease,

[1] Read before the Illinois State Medical Society, May 19, 1887.

the physician should not try to check the bleeding unless serious symptoms supervene. But when the face becomes pale, and the extremities cold, when faintness occurs, and in all cases due to an abnormal condition of the nasal chambers, prompt measures should be adopted to prevent loss of blood. For this purpose, compressing the nostrils and holding them ten or fifteen minutes, until a firm coagulum has formed, is one of the most simple and efficacious methods. The application of cold to the brow, the nape of the neck, or even to the feet or hands, may be equally effective; or very hot water may be applied freely to the nose and face with like result. Sometimes the bleeding spot may be reached by the finger passed into the nostril and then direct pressure should be made upon it.

Having syringed out the nose with cold water, the insufflation of powdered matico leaves, alum, or tannin will often speedily give relief. Astringent sprays may be used for the same purpose, though they are less satisfactory than powders. The insufflation of a four per cent. powder of cocaine with sugar of milk will sometimes act promptly and agreeably. The iron styptics are most commonly employed, but they are far more disagreeable, and I believe much less effective than tannin.

One of the best means for checking bleeding by local remedies is—first, syringe out the nose with cold water, and then insufflate a powder containing a small amount of cocaine, which should be followed at once with powdered tannin. As the clot to be formed in this way must remain for several hours, it is a good plan to use iodoform with one of the other powders. After the powder has been applied the nostrils should be compressed, or they may be plugged with lint or cotton until bleeding ceases. This treatment will be effective in most cases, and it has the further merit of being less disagreeable to the patient than most other methods. However, it may fail, and then more thorough anterior or anterior and posterior plugging must be employed. This latter method is effective, but is exceedingly uncomfortable to the patient, and if the plug has to remain for many hours in the naso-pharynx, it is liable to set up inflammation of the Eustachian tube or middle ear. I have known of one case in which it caused dangerous inflammation of the mastoid cells. The late Professor Gross was authority for the statement that patients have frequently died from the effects of septicæmia caused by the post-nasal tampon. Other physicians have reported as resulting from it erysipelas, tetanus, gangrene, etc. If posterior plugging becomes necessary, it may most easily be effected with the aid of a soft catheter through which a double thread has been passed previous to its introduction into the nostril.

I adopt a method of plugging the nares which has proven most satisfactory, and which, I believe, may be made effective in all cases where the bleeding is not from the naso-pharynx. I take a piece of surgeon's gauze, or cheese cloth, an inch in width, and four or five feet in length. This is thoroughly saturated with tannin, which is prepared by rubbing it up with just sufficient water to make a thin, syrupy mixture. Opening the nostril with a nasal speculum, one end of the slip is folded upon itself, and over the end of a probe, by which it is carried quickly to the posterior part of the nasal cavity—a distance, in the adult, of about three and one-half inches; after this fold after fold is carried back in the same manner, though more slowly, until the cavity is completely filled, when any remaining portion of the slip is cut off. It is necessary to carry in the first fold quickly, otherwise the coagulating blood causes it to adhere to the sides of the nasal cavities and renders the subsequent filling of the back parts very difficult. If iodoform has first been blown into the nasal cavity, or has been freely mixed with the tannin, in which the gauze has been saturated, this plug may remain for two or three days without danger. When the time comes for its removal, the patient catches the end at the nostril, and pulls it out slowly and gently.

There is some liability of crowding in a part of the gauze so far that it would hang down behind the palate, but this can be easily avoided by care when the source of hemorrhage is not far back; and it may then be avoided by tying to the end of the gauze which is first introduced a number of silk threads, one every two inches, which are allowed to hang from the nostril until the naris is completely filled. These threads are then pulled firmly enough to pack the gauze thoroughly at the back part of the nasal cavity.

Whenever the tampon is used in the posterior nares a string at least two inches in length should be left hanging from it in the pharyngeal cavity to facilitate its removal. It should not be left in position more than thirty-six hours, if avoidable, and the nares should be carefully cleaned and disinfected after its removal.

The constitutional remedies for checking hemorrhage, or preventing its recurrence, such as acetate of lead, ergot, gallic acid, sulphuric acid, and turpentine, may be employed in mild cases, and should have a trial in those of greater severity, when the exact point of bleeding cannot be ascertained. The bleeding due to plethora is best prevented by occasional saline cathartics.

In the great majority of cases of obstinate or frequent epistaxis a careful examination of the nares, under a strong light, will reveal the spot from which the blood escapes. When this can be detected, the best method of treating is to cauterize the spot with either solid nitrate of silver or the galvano-cautery; the latter is most satisfactory, but the former will often answer the purpose. During a few months past several cases of serious epistaxis have came under my observation, brief reports of which I am confident will be of interest to you.

CASE I.—A. D. P., æt. about forty-five, mechanic. The patient had been suffering from frequent epistaxis for about four months, the bleeding coming on three or four times every day, and from half an ounce to two ounces of blood being lost each time. As a result he was greatly debilitated, and unable to attend to his business. Examining the right naris, from which the hemorrhage occurred, I found the mucous membrane covered with blood, but even after cleansing it I was unable to see the

bleeding point; however, I found that the blood came from the anterior portion of the external wall above the inferior turbinated body. This region I cauterized with a flat electrode, shielded on the opposite side. Two or three treatments were necessary before I succeeded in overcoming the difficulty, but then the patient was completely cured.

CASE II.—A. H. H., æt. nineteen, cashier. For a year had been troubled with bleeding from the nose three or four times a day, losing from one to four drachms each time. As a result he had lost considerably in weight, was weak, short of breath, anæmic, and suffered frequently from headache. He continued at his business, but found the epistaxis exceedingly annoying and debilitating. His tongue was coated, appetite poor, and digestion imperfect. He had received the ordinary constitutional remedies, but without apparent benefit.

Upon a rhinoscopic examination, I found the walls of the left naris covered with blood; but by wiping it away, I discovered a small polypus near the middle of the middle meatus, and near it a small, bleeding papillary body. Having anæsthetized the part, I cauterized the polypus and bleeding-point. Five days later the bleeding had not entirely ceased. I again cauterized the spot from which the blood escaped. This completed the cure, and there has been no return of the hemorrhage.

CASE III.—G. W., æt. thirty-three, liquor-dealer, had been troubled with profuse and frequent epistaxis for ten years, but for a couple of weeks previous to seeing me the hemorrhage had occurred about every second day. In this case the blood would sometimes spurt in a stream, two or three feet from the nostril, and would often continue to flow until faintness occurred. The patient was quite anæmic and weak at the time, but otherwise seemed in good general health, and complained only of headache whenever there was a long interval between the hemorrhages. I found, also, that previous to the occurrence of epistaxis he had suffered from hemorrhoids.

In this case it seemed that formerly the hemorrhages had been beneficial by relieving plethora, but latterly they were affecting the patient seriously because of their frequent occurrence. He stated that he usually lost from one to four pints at each hemorrhage.

Upon examining the nares, I found a small, eroded surface in the left side, on the cartilaginous septum, partially covered with a scale of clotted blood. The right side appeared slightly eroded, but did not show signs of bleeding. I touched the eroded surface on the left side with a galvano-cautery electrode heated to redness, but immediately blood spurted from an artery as large as a knitting-needle, and could not be checked by the hot wire. The patient lost half a pint within five minutes, and the flow was only checked then by plugging the nostril with gauze saturated with tannin, as recommended above. Two days later I removed the plug, and there was no bleeding, but blood had been flowing from the right side of the cartilaginous septum, at a point nearly opposite that from which bleeding had occurred on the left side. When my assistant tried to anæsthetize this side preparatory to cauterization, the slightest touch started the blood. Finally, I touched the bleeding points slightly with the hot wire, but immediately the blood spurted from two small arteries. I then made deep cauterizations and finally checked the hemorrhage, except slight oozing, which was stopped by the tannin tampon. The time occupied in the cauterizations was not much over five minutes, but the patient lost a pint of blood. A few days later he returned, having had bleeding again from the left side. The moment the mucous membrane was touched, blood ran in a stream, so that half a pint was lost within five minutes. The bleeding points were cauterized again, and the hemorrhage checked. I did not see the patient again, but I have heard that he is still troubled with epistaxis.

In this case the treatment was unsatisfactory, every application of the cautery being attended by profuse hemorrhage. I have no doubt that the bleeding could have been checked from these particular spots if he had continued treatment, and by a judicious use of cathartics the plethora might have been otherwise relieved; but I am not surprised that the patient became discouraged.

CASE IV.—Mrs. H., æt. about thirty, had been annoyed by epistaxis three or four times a day for four weeks, which to her had become alarming, though the amount of blood lost had not been sufficient to affect her general health. An examination of the nares with a strong light revealed a bleeding point on the left side of the cartilaginous septum. The mucous membrane was anæsthetized with cocaine, and the point cauterized, with the result of effecting a permanent cure.

CASE V.—The notes of the following case were kindly furnished me by my friend, Dr. J. E. Rhodes, of this city. "R. J., æt. seventy-three, in fairly good health, was seized with epistaxis in the middle of the night, while resting quietly, the blood-stream being continuous, and about the size of a knitting-needle. After a considerable loss of blood, the flow was stopped by cold water applied to the back of the neck. The hemorrhage was controlled in like manner twice subsequently, but the third time the loss of blood was so great that a neighboring physician was called in, other means were resorted to, and plugging of the posterior nares became necessary before the hemorrhage could be stopped. I was summoned, and on my arrival found the patient much exhausted from loss of blood (estimated at about two quarts at this time), and the friends in alarm because efforts had hitherto afforded temporary, but promised no permanent relief. There was no bleeding at this time, but during the next few days there were several hemorrhages, each time controlled by gauze saturated with a mixture of tannic acid, as recommended by Dr. Ingals. This measure would stop the flow, but a few hours after removing the plug bleeding would return. Finally, a thorough examination was made, and the exact bleeding spot located. No galvano-cautery was at hand; therefore, at Dr. Ingals's suggestion, the spot was thoroughly cauterized with fused nitrate of silver. The epistaxis was completely and permanently controlled, much to the delight of the patient, whose suffering

from the posterior plugging had been intense, and who had become well nigh hopeless of permanent relief."

In conclusion, I wish to reiterate the following points:

1st. In ordinary cases, epistaxis ceases spontaneously; therefore, it makes no difference what innocuous treatment is employed.

2d. Epistaxis in children and young adults is generally an effort of nature to relieve plethora, and therefore should not receive active treatment.

3d. Persistent or frequently recurring bleeding from the nose may sometimes be relieved by constitutional remedies, but it usually demands topical treatment.

4th. When bleeding is profuse, it may often be checked by insufflations of cocaine, or the vegetable astringents, which may, if necessary, be supplemented by plugging the nostrils.

5th. When it cannot be checked in this way, the nasal cavity should be treated with iodoform, and then thoroughly plugged from the front with a strip of gauze saturated with tannic acid. This method will nearly always be successful, and, therefore, tamponing of the posterior nares, which is sometimes dangerous, should be employed only as a *dernier ressort.*

6th. In nearly all cases the source of hemorrhage may be detected by careful rhinoscopy.

7th. In these same cases the affection may generally be cured by the judicious use of solid nitrate of silver, or, better yet, by the galvano-cautery.

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THE RECTAL TREATMENT OF PHTHISIS.

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ON February 2d I first began this treatment, and from ignorance of Bergeon's details fell upon a method of administering this remedy which, as may be seen, is wholly unlike his. Instead of using the remedy in the gaseous state, I inject the watery solution into the bowel, depending on the mechanical and physiological action of its mucous membrane to free and absorb the gas. A perfectly saturated solution is prepared (not less than eight hours should be taken for saturating cold water with sulphuretted hydrogen gas), of which ʒviij are diluted with ʒxx–xxx of water, and securely corked in ale-bottles. The contents of one of these, night and morning, after warming to 90°, are slowly injected into the bowel; not less than thirty minutes should be taken to do this. It is necessary to observe such precautions as would be taken in rectal alimentation, viz., the exclusion of air, the compression of the sphincter ani with the fingers, and afterward by directing the patient to extend the lower limbs. With some patients I precede the solution with laudanum. The majority, after gaining skill and confidence, retain the solution altogether.

As to results: The profession will be disappointed if they look for a "positive cure from phthisis" in this remedy. In no single case have I used it alone, and any results that were extremely favorable might not be wholly ascribable to the rectal mode of treatment.

I would not be surprised to find that the mass of the profession, who are now giving, or about to give this drug a trial, will discard it as worthless, because they are looking for results I feel sure they can never obtain. I think I am fair when I say to patients who have troublsome pains in the chest, expectoration of vast quantities of muco-purulent matter, and but slight loss of flesh, that it is a remedy of great value. Its tendency to disorder digestion, however, greatly diminishes this.

From some crude experiments I am satisfied H_2S is an antiseptic, and to this action I attribute what virtue it possesses. One observer, Hoppe-Seyler, found that H_2S reduced oxyhæmoglobin to hæmoglobin, and after prolonged action a sulphur compound, probably hæmoglobin sulphide, was formed. This work was conducted on pure hæmoglobin. This peculiar action of H_2S on hæmoglobin may possibly occur in this mode of treatment in the blood of the intestinal vessels. If not in union with blood, like oxygen, this gas is carried in solution on its way from the bowel to the lungs.

I have seen three toxic cases. The symptoms of Miss A. will answer for all. She took ʒxij, properly diluted, in three minutes. Five minutes after she complained of oppressive breathing. Her face became pallid, and "her eyes turned up." She passed rapidly into a state of syncope, from which she revived by feeble efforts at vomiting, The solution was still in her bowel when I was called to see her. I ran it off with a hard rubber tube, and gave her brandy. One hour after I found her recovered with the exception of some gastric disturbance, pulse 108, temperature 97°. All three rapidly recovered; had subnormal temperature and gastric trouble for two days. Some patients bear ʒxx diluted without trouble, if more than thirty minutes be taken for its introduction.

I prefer the solution to the gas for the following reasons:

1. The dose is uniform. In Bergeon's method the dose depends on the temperature and strength of the solution.

2. There is no apparatus wanted except a household syringe. I generally prepare several bottles at a visit, directing them to be kept in a cool place. The nurse can prepare the bottles, and in this way patients at a distance can be easily treated.

3. The solution causes less pain to the patient (if it is rejected, another bottle can be used).

4. There is no call for the use of carbon dioxide —a gas considered valueless, and contra-indicated. To say CO_2 is antiseptic is contrary to all physiological truths, and if it possesses any value in phthisis it is due to its sedative action. The blood appears to take up oxygen more rapidly after its use, but even this action is only temporary.

5. Bergeon failed with chlorine gas. I was able to give it in solution and found it well borne. I did not give it for any time, fearing it had a tendency to produce anæmia, by combining with the iron in the hæmoglobin.

In conclusion, I might say this remedy has no value in any but pulmonary lesions of tubercular phthisis. I made no examinations of the bacillus except for diagnosis, for I consider their disappearance from the sputa while the patient is under treatment as proof of the arrest of suppuration in the lungs, and nothing more.

A CLINICAL CONTRIBUTION TO DISEASES OF THE VITREOUS BODY.

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IN reviewing ophthalmological literature in search of material on the subject of diseases of the vitreous humor, one is surprised at its poverty. The study of microscopic normal and pathological anatomy is monopolized by Hænsell, of France, who in the past few years has contributed numerous and valuable additions to our knowledge ("Bull. Clin. Nat. Ophthal. de l' Hospice d. Quinze-Vingts"). The study of the clinical diseases seems to be limited to a superficial consideration of the different varieties of opacities as associated with diseases of the uveal tract, and with myopia; to an occasional report of so-called hyalitis, and, by our German brethren, of cysticercus.

The vitreous body consists anatomically of a transparent gelatinous material containing cells, interlaced with connective tissue, and surrounded by an elastic, homogeneous, and transparent membrane, the hyaloid. A few cells with one or more nuclei have been found attached to the inner surface of the hyaloid, and are described by Iwanoff and others as a part of the vitreous, and the source of its growth, and by others as white blood-cells which have wandered in from the vessels of the retina and ciliary region. The latter is probably the true belief, for the cells are too few in number and too irregularly placed to fulfil the duties of an epithelial layer. The vitreous is nourished by the surrounding vascular coat as the cornea is nourished by the loops of ciliary vessels at its periphery; and, like it, has no vessels in its own substance except in disease, when offshoots from ciliary vessels find their way into its tissue. In both cases described below, parallel, straight vessels could be plainly seen immediately behind the lens, but in the section examined under the microscope no trace of these vessels could be found.

CASE I.—James A., aged three years, rachitic. Between Christmas, 1885, and New Year's, 1886, the boy had chickenpox. Before he had altogether recovered, the mother noticed a peculiar appearance of the left eye, and the boy complained of photophobia and lachrymation. On January 13th I found a pericorneal zone, which gave a light pink hue to the sclera, slight conjunctival injection, cornea clear, pupil fairly dilated and immovable, one small posterior synechia, lens clear, anterior chamber shallow, pupillary border of iris pushed forward. From the pupil shone a clear yellowish-white reflex, which came from a substance in the middle of the vitreous. T.—½. No pain or sensitiveness to pressure. No light perception. Ten days later the following condition was found: Cornea clear, anterior chamber annihilated, lens pushed forward and separated from the cornea only by the iris, and its site occupied by the yellow mass. The reflex came from immediately behind the lens, from its posterior pole to the ciliary region, as far as could be seen, occupying the entire vitreous chamber. The mass had become vascular, at least on its anterior surface, the vessels showing distinctly, running parallel to each other from the periphery to the axis. The external injection had not increased, nor had the symptoms become worse. January 24, the eye was enucleated. Healing normal.

CASE II.—William, aged sixteen, who, while convalescent from typhoid fever, became blind in the left eye. No pain. Examination showed cornea clear, anterior chamber annihilated, pupil dilated and immovable, two posterior synechiæ, lens clear and dislocated forward, pressing against the cornea. Yellowish-white reflex from the vitreous. The vitreous body was filled with pus. Behind the lens and adjacent to it could be seen numerous straight parallel bloodvessels running from the ciliary region toward the axis of the ball. Without unnecessary delay the eye was enucleated. Healing favorable. The right eye had been in imminent danger. V.=$\frac{15}{CC}$ on first visit. Vitreous full of shreds. Here was a true hyalitis, with no ophthalmoscopic signs and no symptoms of inflammatory process either in the nerve or retina, choroid, or ciliary body, which, if convalescence had been delayed, or for any reason, local or general, the nutrition of the eye had continued without improvement, would have resulted in a purulent inflammation, with loss of the eye. The effect on the right of the enucleation of the left, if perceptible, could only have been favorable. Six weeks later an artificial eye was inserted into the left socket. The V. of right had improved to $\frac{15}{XL}$. It finally became $\frac{15}{XV}$.

The pathological appearances in both cases were similar; one description only is necessary. Bulbus hardened in Müller's fluid. Cornea and lens normal, but opaque from action of the fluid. Lens dislocated in its capsule forward, carrying the iris against the cornea, obliterating totally the anterior and posterior chambers. The vitreous body is compressed into a layer of about 1''' in depth, and lies against the posterior surface of the lens and suspensory ligament. The retina is totally detached, and lies immediately back of the compressed vitreous, in a confused mass. A narrow red line, consisting of retinal bloodvessels and clotted blood, connects the retina with the nerve. The vitreous chamber, except that small part occupied by disorganized vitreous and retina, is filled with pus. The choroid is normal and in place. Sclera and nerve normal. The parallel "vessels" seen before enucleation behind the lens were retinal, or new branches from the ciliary, which is more probable, or no vessels at all, but extravasated blood from retinal arteries.

The microscope throws little further light on the condition. In the section examined no trace of new bloodvessels running from the ciliary body into the vitreous, or the pus which filled the vitreous chamber, could be detected. The vitreous substance was compressed or atrophied into an exceedingly thin membrane lying against the posterior surface of the lens, and into the angle formed by the suspensory ligament and ciliary muscle. Retina detached and floating in pus. Ciliary muscle and processes compressed, with no decided changes. Choroid normal. Pus cavity bounded by a thick membrane, which was lying in juxtaposition with the choroid.

The name suggested by Braily, "spontaneous suppurative hyalitis" (*Trans. Oph. Soc. Unt. Kingd.*, vol. iii.), is appropriate for these cases. The term "hyalitis" is almost obsolete, being seldom met with in the works of recent writers, but if we understand inflammation of the vitreous chamber, and not inflammation of the hyaloid membrane alone, this term designates the nature and seat of the disease. The hyalitis of the old writers is the partial inflammation of the uveal tract—choroiditis or cyclitis with vitreous opacities of the present. While this is correct in many instances, there can be very little doubt that in the few a true inflammation of the vitreous body exists. Estlander (*Arch. f. Ophth.*, xv., 1869) found no trace of inflammation of the choroid in twenty-eight cases of purulent vitreous following typhus fever. He called the disease a cyclitis, because the vitreous was filled with white blood cells and opacities. The vitreous derives its nourishment from the uveal tract, and any disturbance in the circulation through the vessels of the choroid will be followed by disturbance in the vitreous, which may be intense enough to result in its destruction through purulent inflammation; this is properly a spontaneous suppurative hyalitis.

The right—good—eye of Case II., where the only symptom was vitreous opacity, well illustrates the primary stages of the disease. There was no post. synechia, infiltration of the iris, loss of transparency of cornea or other sign of cyclitis—vitreous opacities excepted; nor could many careful examinations repeated when the vitreous had regained nearly its normal transparency prove the slightest trace of choroidal or retinal inflammation. The retention of the power of accommodation in this eye, and others that recovered (Logetschnikon, *Arch. f. Oph.*, vol. xvi.), is a more or less positive proof of the absence of any severe form of cyclitis.

In Case I. the patient came under observation before the entire vitreous was involved, and the gradual progression of the yellow reflex, until the mass had dislocated the lens into the anterior chamber, was watched. The pus must have formed in the posterior half of the vitreous chamber with little or no involvement even late in the disease of the ciliary region. The usual symptoms of cyclitis were wanting; there was no pain, no sensitiveness either to light or pressure, no want of transparency in the aqueous, or swelling of the iris, and no marked ciliary or conjunctival injection. Cases in which this yellow reflex has been the only peculiar sign of disease, have been mistaken for glioma of the retina, and the error being discovered after enucleation, have been described in a spirit of justification as "pseudo-glioma." This name would suggest a tumor of the retina, which, while not identical with glioma, might be similar to it. Hence it is misleading. Moreover, it expresses no intimation of the true character of the disease, its seat, or its pathology, and should be discarded.

The anatomical examination of the vitreous after the entrance of a foreign body, which has lighted up a circumscribed inflammation, teaches, as is evident from the experiments of Pagenstecher, that there is formed in the irritated part an abundant collection of cells, which show transition stages into connective tissue elements, into which, finally, a portion of the vitreous is transformed. Formerly, before diapedesis was recognized, when, after the entrance of a foreign body in its immediate neighborhood, numerous lymphoid cells were found, without the least change of the stroma cells of the choroid surrounding the wound, we believed ourselves justified in the conclusion that the tissue-cells of the vitreous were the source of the new-formed elements. Pagenstecher's experiments convinced him that the different varieties of cells found in an inflamed vitreous were lymphoid cells in transition stages. It is from these cases in which after a wound, rapid pustulation of the vitreous occurs before a choroiditis suppurativa could have been developed, that v. Gräfe and others have been led to separate the somewhat similar pictures of suppurative hyalitis and purulent choroiditis. "Here is the opportunity to convince one's self that a vitreous abscess can be developed before the slightest signs of inflammation show themselves at the wound." (Von Gräfe and Sämisch, Handb., vol. iv.) The choroid becomes affected only in the late stages, when phthisis is commencing. This long delay is explained by the protection afforded by the thick capsule which forms around the pus; the retraction and breaking up of this capsule, with the irritation it induces, causes irido-choroiditis.

Hutchinson (*Med. Times and Gaz.*, 1872, No. 45) describes a primary pustulation of the vitreous seen in eyes in which the cornea has long been destroyed through ulceration. The pus forms spontaneously with considerable œdema and swelling of the neighboring parts, with a detachment of the pus-infiltrated retina. The choroid retains its normal condition. Stelwag, in a comprehensive account of hyalitis in its different forms, traumatic, contiguous, or spontaneous, makes no mention of fevers as a cause. He describes, however, a purulent hyalitis which very rarely is caused by tuberculosis in which the whole vitreous becomes purulent and partly vascular, the vessels proceeding from the retinal vessels and running in every direction. Nettleship (*Med. Times and Gaz.*, 1880) describes twenty-eight cases of atrophied eyeballs, and in speaking of causes, says: "There is strong reason for connecting nearly every case with infectious blood diseases."

De Wecker distinguishes this affection of the vitreous, which he calls "choroiditis metastica," "irido-choroiditis metastica," from irido-choroiditis due to embolus and embolic infarction. Knapp (*Arch. f. Oph.*, Bd. xiii. 1, p. 127) has determined that metas-

tatic choroiditis is an extensive collection of pus between choroid and retina, with a cell growth at the expense of the stroma of the choroid and iris, leading to a considerable thickening of these tissues and thorough infiltration of the retina and vitreous with pus. In vain has he sought for an embolus of the vessels of the uveal tract. This rapid accumulation of pus in the vitreous crowding the normal tissues aside, argues against a parenchymatous purulent degeneration, and in favor of the theory of an abundant filtration through the walls of the vessels of white blood cells under the influence of an infectious substance in the blood. The anatomical examination by Schmidt (*Arch. f. Oph.*, Bd. xiii. 1, p. 18), of metastatic irido-choroiditis, showed no emboli or thrombi underlying purulent degeneration.

Metastatic choroiditis (de Wecker), as met with in inflammation of the cord in the newborn, in severe typhoid, after scarlet fever, erysipelas, cholera, acute rheumatism, and in tuberculosis, owes its causation to the free communication existing between the lymph spaces of the eye and brain, and is dependent on a peculiar condition of the blood in infectious diseases. In its history and pathology it is different from the form seen in puerperal and pyæmic conditions. Panophthalmitis—an inflammation of every part of the eye, as the name implies—need not be mistaken for spontaneous suppurative hyalitis. The inflammatory action is intense, leading to chemosis, necrosis of the cornea, hypopyon, purulent iritis, and cyclitis, and other signs of an acutely destructive process. It is usually induced by a traumatism, occasionally by embolus or metastasis.

The new cases described in this paper, in conjunction with those referred to, afford strong evidence of the possibility of a spontaneous inflammation of the vitreous body. This inflammation may lead simply to a solution and slight loss of transparency of the vitreous, or to its destruction through pustulation, and in either case is independent of the uveal tract. It is analogous to the different forms of superficial and deep ulceration of the cornea. It may be due to various causes, prominent among which is the exhaustion and debility following low fevers. Recognizing this source as important, it behooves those who have such cases to treat to be apprehensive of the complication, and endeavor by frequent testing of vision and the use of the ophthalmoscope, to prevent disastrous results. If the patient complain of failing vision and opacities are seen floating in the vitreous, energetic supporting measures must be resorted to with the hope of preventing degenerative inflammation. If, however, the yellow reflex has appeared in the pupil, there is no possibility of saving the eye, and enucleation should be practised when the patient is able to sustain the shock of the operation.

HOSPITAL NOTES.

TREATMENT OF CHOLERA INFANTUM.

THE THOMAS WILSON SANITARIUM, BALTIMORE.

DR. WILLIAM D. BOOKER, Physician-in-charge, directs that the patient be made to lie upon the bed, and all unnecessary handling avoided; thorough cleanliness is observed, soiled clothing and diapers being removed from the room at once, and the room kept well ventilated. Care is taken to protect the body from sudden changes in atmospheric temperature, by suitable regulation of the clothing or wrapping.

In the early stage, when there are high fever and frequent vomiting and purging, as little as possible is taken into the stomach; fresh spring water or pieces of ice are given to relieve the thirst, the quantity allowed depending upon its retention by the stomach. Peptonized beef-tea, if retained, is given in teaspoonful doses every three or four hours, and no milk food allowed until vomiting ceases. Fifteen to twenty drops of brandy in a teaspoonful of water are given every two hours, the quantity and frequency increased as the pulse grows weaker.

The bowels are irrigated once or twice daily with two or three quarts of lukewarm water. A Nélaton's catheter attached to a fountain-syringe is introduced gently, and as high in the rectum as possible; the water is then allowed to run into the gut in a gentle and steady stream until it returns clear. The washing out is thorough, and always given by a physician; it has proved most decidedly beneficial in checking the vomiting and purging, and relieving the stupor. Deodorated tincture of opium, or sulphate of morphia with resorcin, is given by the stomach, if not contraindicated by stupor.

In the stage of collapse the extremities are kept warm with hot-water bottles or cotton wadding; poultices of flaxseed meal and mustard are kept over the belly, and stimulation is increased. Aromatic spirits of ammonia is added to the brandy, and, when the collapse is extreme, tincture of musk, or ether, given hypodermatically. When vomiting ceases, a return to milk food is gradually effected. At first teaspoonful doses of peptonized milk, diluted with water, are given at long intervals, and the quantity and frequency very cautiously increased. If vomiting returns, milk is stopped at once.

When reaction comes on, and the heart's action becomes stronger, the stimulation is gradually diminished, If the diarrhœa persists, it is treated with opium and resorcin, alternating with small doses of nitrate of silver by the mouth, and rectal irrigations. The body is sponged daily with warm water and soap. The dusting powder used is composed of lycopodium with four per cent. of salicylic acid. The greatest care is still observed in the diet, and all the minor details of nursing.

THE CHILDREN'S HOSPITAL, WASHINGTON, D. C.

DR. SAMUEL S. ADAMS, to quiet the stomachal irritability, prefers creasote or carbolic acid half a drop in a drachm of lime-water every two hours. Rice-water will sometimes be retained when everything else is rejected. Rubefacients of mustard or cloves may be applied to the epigastrium as counter-irritants.

To check the diarrhœa he has found bismuth subnitrate in cinnamon and lime-water the best combination. It must be given in from three to five grain doses every two hours. In some instances, lead acetate, acetic acid, and lime-water, have proved beneficial; this mixture should be rendered perfectly clear by the addition of the acid, otherwise it should be rejected. These mixtures also seem to exert a soothing effect on the irritable stomach. Benefit is not to be expected from the vege-

table astringents. Some have claimed benefit from the starch-water and laudanum enemata, but his experience has been different.

In all cases the condition of the anterior fontanelle is his guide for stimulating. As long as this is depressed he has no hesitancy in continuing or, perhaps increasing, the stimulant, and it is surprising how well infants bear it. He uses whiskey or brandy, and sometimes a little camphor. In too many cases the stimulation is put off until the infant is too ill to absorb it, or harm is done by leaving it to the discretion of the nurse, when too much is given.

When the temperature is very high, he orders occasional spongings with cool water, whiskey and water, or bay rum and water. During the sponging care should be taken to apply cold wet cloths or an ice-bag to the head, which should be changed frequently.

Of the opiates he prefers the camphorated tincture because it is more manageable, more certain in its action, and least likely to do harm of the preparations of opium. If there is any evidence of jactitation or convulsions, he relies on sodium or potassium bromide.

The infant should be kept in the cool air as much as possible; it should be kept upon a pillow, and not in its nurse's arms, and all superfluous clothing should be removed.

Stimulation and external warmth are the indications for the stage of collapse. He gives whiskey or brandy, and sometimes camphor. To excite cutaneous warmth, hot bottles, warm blankets, and mustard foot baths should be applied.

The infant should have small quantities of milk and lime-water at short intervals; cool water and cracked ice occasionally to allay thirst; the stimulant should be gradually withdrawn; sleep must be secured, if necessary, by the camphorated tincture of opium; cool, fresh air should be secured by taking the advantages offered by the city parks, and discretion in bathing and clothing the infant should be exercised.

HOME FOR SICK CHILDREN, CINCINNATI.

DR. FORCHHEIMER bases his treatment upon the following principles:

I. Removal of the cause. II. Treatment of digestive symptoms. III. Treatment of general symptoms and complications.

I. The child must be kept cool if the attack occurs in hot weather. For this purpose all unnecessary clothing must be removed; no flannels, no belly-bands. The patient must be kept in the open air—night air is as good as day air. We need reduced external temperature. If the attack occurs in winter, removal from bad hygienic surroundings becomes imperative. When error in diet can be discovered, quantitative or qualitative, the treatment is begun by administering a laxative dose of calomel. This is not done when the diarrhœa is already profuse.

II. The patient is put upon diet, consisting during the first twelve to twenty-four hours of brandy and water. All water given to these patients first to be boiled, then cooled off; the patient to have as much as needed to quench thirst, but in small quantities at a time. This usually controls vomiting, makes the patient comfortable, reduces the quantity of stools, and the brandy, given in full doses, keeps up the patient's strength. Opium is given in small doses, very carefully, and only for relief of great pain or to prevent too great waste from serous discharges. The remedy that has given more satisfaction than any other is salol, gr. ½–j every two to four hours. When vomiting has been completely controlled, *skimmed* milk, well diluted, is given as food. The milk must be tested with litmus paper before it is given, must be administered in small quantities at a time, and frequently. The quantity to be increased, the dilution to be diminished, and whole milk to be given as the patient convalesces. If the infant be at the breast, it should be allowed to nurse at long intervals, and to take as little as possible at a time.

III. Fever is treated by lukewarm baths, given, if necessary, every hour or two. Occasionally benefit is derived from keeping the infant in a continuous lukewarm bath for one or more hours. Cold baths are never used, as being too dangerous in infants. Antifebrin is being used this year with very good results so far. Collapse is treated by the warm mustard bath, the mustard to be mixed in a small bag of old muslin or linen with cold water, the bag and the baby to be put into the water together. As soon as the attendant's arm, holding the child in the water, begins to tingle from the mustard, it is time to remove the patient. The child is then wrapped in a blanket and bottles with warm water placed around it. All this can be done in the open air if found necessary. In addition, the patient is stimulated by the internal administration of ether, in full doses, musk, or brandy. The ether is given in milk, and repeated frequently. If vomiting continues, hypodermatic injections of ether are given.

Convulsions are treated variously, depending upon their cause. If early in the disease, they are due either to high temperature or blood poisoning. In the first instance antithermic and antipyretic remedies are used; in the second, rectal injections of chloral hydrate. If recurring late in the disease, they are usually caused by disturbance of blood supply to the brain, lack of oxygen, increase of carbonic acid, thickening of the blood within the brain, thrombosis. This form of convulsion cannot be treated with any satisfactory results. Free stimulation is usually indicated.

It goes without saying that the above is to be treated as an example to which there are many individual exceptions.

WEST SIDE DISPENSARY, CHICAGO.

DR. J. SUYDAM KNOX treats a case of choleraic diarrhœa with vomiting as follows: Immediately two to five grains of calomel are administered to remove fermenting ingesta. Then bismuth subnitrate and cerium oxalate in full and oft repeated doses for the vomiting and diarrhœa. Cold baths, spongings, or pack for fever and restlessness. In rapid cases, or in collapse, hypodermatics of morphia sulphate, and alcohol or ether; also aromatic spirits of ammonia in ice water for the extreme thirst.

He believes that there is neither digestion nor assimilation during the attack, therefore no food is given. He allows an abundance of ice water for the thirst, and to compensate for the excessive drain of fluids. As soon as the stomach will tolerate food, albumen water and beef peptonoids are given in small quantities, often repeated.

UNIVERSITY OF MICHIGAN, ANN ARBOR.

DR. VICTOR C. VAUGHAN, up to the beginning of the summer of 1886, in his treatment of the choleriform cases, did not restrict the use of milk, and he employed subnitrate of bismuth, pepsin, chalk mixture, and the camphorated tincture of opium, with a dose of castor oil in those cases in which serous discharges had not already appeared, and with astringent enemata of either tannic acid or nitrate of silver in some instances. This treatment was eminently unsatisfactory. A large majority of the violent cases terminated speedily and fatally.

In June, 1886, he began the *no milk* treatment. The prohibition of milk was absolute. If the child was taking a part of the nourishment from the mother's breast, this source of supply, as well as the cow's milk, was forbidden. No prepared food containing milk, or to which milk should be added, was allowed. The child was given a little barley or rice-water, and some meat preparation, as beef-tea or chicken-broth. The only prepared foods which he used at all were the peptonoids of Reed & Carnrick, and the peptone of Rose, and, with the exception of the objection to the taste of the peptone manifested by a number of the children, he was much pleased with these meat preparations. The medicinal treatment was the same as it had been in preceding years, and as given above. Out of twenty-two cases of the choleriform type treated by this method last summer, three died. This, in view of his past experience, was very gratifying. All the cases were severe, and the three deaths occurred within twenty-four hours after the appearance of the first symptoms One of the children had, some three weeks after its recovery, a second attack, when it came under the care of a physician who prescribed one of the infant foods with milk; this time the result was fatal. But this number of cases is too small to draw any positive conclusions from. However, the success seems large when compared with his earlier experience.

MEDICAL PROGRESS.

WHY ARE PREPARATIONS OF DIGITALIS FREQUENTLY INERT?—KOBERT, of Dorpat, answers this question as follows in an article reporting a number of experiments upon digitalis, in the *Therapeutic Gazette* of June 15, 1887: "What form of digitalis shall be employed? Most commonly preferred is the infusion. This naturally contains only those substances soluble in water. Of the three important active principles digitalein, a drug which produces dilatation of the vessels of the kidneys, is soluble in alcohol, it is contained in the tincture and alcoholic extract. The other constituents, digitoxin and digitalin, are also soluble in alcohol; in alcoholic preparations, as well as in the leaves themselves, we obtain the three important active principles. In fluid extracts digitoxin is precipitated as an insoluble powder. Acetum digitalis (vinegar of digitalis) approaches the infusion most closely in regard to its contents. It is very desirable that fresh, well-dried leaves be used. When the leaves are imperfectly dried, a species of fermentation may occur which may decompose the three essential components of the drug, for digitalin and digitalein are, like all glucosides, decomposable through foreign matter and fermentation. Digitoxin is, however, not a glucoside, but decomposes as easily and under the same circumstances as the others. The result of the decomposition of digitalis is not a substance producing the desired effects upon the heart, but a resin, digitaliresin (from digitalein and digitalin) and toxiresin (from digitoxin). The effect of these bodies is a violent irritation of the convulsive centres of the brain; severe convulsions may also occur, as in poisoning with picrotoxine or cicuta verosa. Whenever the usual effects of digitalis are wanting, or instead cramps occur, we are safe in thinking that the preparation used was a poor one. The decomposition of digitalis may occur not only in the leaves, but also in infusions and solutions of digitalin and digitalein. As Tardieu says, 'The pure digitalein when suspended in water or dissolved, undergoes decomposition in a short time, whereby the bitter taste is altered, and, as an indication of a radical change in the constitution of the drug, gases form.' Among my patients I have very often seen decomposition in preparations of digitalis which had stood two days in a room. This happens from the mixing of digitalis tincture with syrup or watery solution. The practice prevalent in America of not preparing the drug from the leaves when desired, but of using a concentrated infusion, explains the frequent disappointment in its use."

THE RELIEF OF THE DYSURIA AND STRANGURY OF OLD AGE.—FISCHER has found the following pill useful:

℞.—Ext. nucis vom. . . . . gr. 8.
Liquiritiæ . . . . . q. s.
Ft. pil. 50 in num.
Sig. Two pills on retiring.

—*Deutsche medicinische Wochenschrift*, June 16, 1887.

SIMPLE AMYGDALITIS AND BICARBONATE OF SODA.—ROVIRA Y OLIVER, of Barcelona, has reached the following conclusions regarding this subject:

1. The simple forms of amygdalitis are superficial from the beginning to the end, or superficial in the beginning, but soon advancing until they become parenchymatous; or they are deeply seated from the commencement.

2. The anginæ disappear within twenty-four hours by dietetic means.

3. The application of bicarbonate of sodium, over a superficially or deeply inflamed tonsil, by neutralizing the acidity and retention of the mucus discharged by the follicles, does not fulfil more than a secondary indication.

4. In this manner bicarbonate of soda may expedite the cure of catarrhal and parenchymatous tonsillitis.

5. Bicarbonate of soda cannot be relied upon as an abortive method of treatment of anginæ of the first group.

6. The action of the soda salt is not efficacious in impeding anginæ of the second group—the advance of the catarrhal to the parenchymatous state.

7. When the stroma of the gland has been affected, bicarbonate of soda can produce a cure in from three to seven days.

8. These effects of bicarbonate are attained by making the applications every two or three hours.

9. It is useless, and may even be dangerous, to apply it, as Dr. Giné recommends, every five minutes.

10. A few styptic drugs, such as sulphate of alumina, are more efficacious than bicarbonate of soda.—*Journal of Laryngology*, June, 1887.

SIXTY CASES OF EXTIRPATION OF THE UTERUS FOR CANCER.—FRITSCH reports sixty cases from his clinic at Breslau, with a mortality of seven, about ten per cent., from the operation itself. Twenty patients are without a return of the disease, of whom two were operated on three years ago; seven more than two years ago; while the remainder were without a return after the first six months, which Fritsch considers the most dangerous time. He concludes that uterine carcinoma returns less frequently than carcinoma in other localities, and thinks the reason lies in the anatomical relations of the lymphatics of the uterus.—*Centralblatt für Chirurgie*, June 18, 1887.

DEATH FROM TIGHT LACING.—A sensational illustration of the fatal effects of tight lacing was afforded last week by the death of a single woman, aged fifty-two, who died quite suddenly in the street. Mr. A. A. Varne, the house-surgeon of the Northwest London Hospital, to which institution the lifeless body was taken, stated that the deceased was a woman who laced very tightly, so much so that she could hardly breathe, and it was owing to the impossibility of proper expansion of the lungs that syncope had been produced. Two years ago he had been called to her in the street; she had fallen down and "broken a bloodvessel." Here is a text which popular health lecturers will be able to use effectively, it may be hoped, and—we fear—for many a long day.—*British Medical Journal*, June 25, 1887.

A CONVENIENT FOOD FOR CHILDREN.—MARTENEAU describes the following food, which may be used whenever farina and like foods are indicated.

Farina (Indian corn).	5 parts.
Powdered cocoa.	1 part.
Sugar, in the form of vanilla powder	3 parts.

Of this, between three and four ounces may be used in twenty-four hours; it may be prepared by boiling for five minutes in milk. The nutritious substances contained are fat derived from the corn; the butter of cocoa, and phosphate of lime from the grain.—*Revue de Thérapeutique*, June 15, 1887.

A TREATMENT FOR DIPHTHERIA.—KACZOROWSKI reports the following treatment as having been useful in his hands:

It is necessary to consider two factors in the treatment of diphtheria, viz,, the local affection, and the consecutive septicæmia. The former is dependent upon specific bacilli, and presents no danger so long as it remains localized. Danger only commences when the infiltrated parts soften and ulceration is produced. At this period the Streptococcus pyogenus of Rosenbach appears, and is propagated throughout the organism. Therapeutics must be directed to limitation of the local process, and to the avoidance of all means which could irritate the mucous membrane and produce collateral inflammation. The author employs the solution of chloride of sodium, 1 per cent., with tincture of iodine, 0.5 per cent.; at first given in doses of a spoonful every half hour, and when improvement appears, every two hours. Under this treatment the false membrane and the infiltration gradually disappear without further trouble. The author employs the same solution as a gargle. Immediately ulceration and signs of general infection appear the author administers alcohol and aromatic remedies, externally and internally. Of these remedies the author gives the preference to camphor and benzoic acid.—*Journal of Laryngology*, May, 1887.

MODIFIED LARYNGECTOMY.—DR. J. SOLIS-COHEN describes the following operation in the *New York Medical Journal* of June 18, 1887:

1. Make an incision from the hyoid bone to the lower border of the cricoid cartilage, and exactly in the middle line.

2. Carefully separate the sterno-hyoid muscles.

3. Hold the soft parts aside and insert, from above, one blade of a strong cutting forceps with narrow blades beneath one wing of the thyroid cartilage, one-fourth of an inch from the angle of junction with its fellow, and sever the cartilage vertically its entire length through to the crico-thyroid membrane.

4. Make a similar cut on the opposite side.

5. Seize the freed angular portion of the thyroid cartilage, comprising its entire respiratory contingent, with a volsellum forceps, and draw it to either side, the soft parts being separated meanwhile from the inner surfaces of the detached wings of the thyroid cartilages with the handle of the scalpel.

6. Make a transverse cut to sever the cricoid cartilage from the trachea. (At this step, in the living subject, a sterilized cotton plug should be inserted into the upper end of the trachea, preliminary tracheotomy having been performed previously.) (If the cricoid cartilage is to be retained, disarticulate the arytenoids, and then sever the soft parts above the cricoid instead of below. This modifies the next step in the procedure accordingly.)

7. Lift the cricoid cartilage forward and carefully separate it with the edge of the knife from the inferior cornua of the thyroid, laterally and superiorly, and then from the œsophagus posteriorly.

8. Insert a finger into the pharynx from below and carry its tip over the epiglottis to draw that structure down.

9. Divide the thyrohyoid membrane and the fibrous tissues still holding.

10. Lift out the exsected respiratory portion of the larynx.

The arteries likely to require ligation will comprise small branches of the superior, middle, and inferior laryngeals.

Upon the living subject the operation should be strictly aseptic, and where practicable should have been preceded by several days by a preliminary tracheotomy. The trachea may be occluded superiorly by a small rubber bag attached to the smallest-sized soft catheter, introduced through the tracheal wound, above the canula, and then inflated. The canula may be temporarily removed during the introduction of the bag and its inflation.

Advantages alleged for this procedure:

1. Its rapidity, ease, and comparative safety to the patient.

2. The small size of the wound.

3. The preservation of the attachments of the thyrohyoid ligament and the greater part of the membrane, and of the thyrohyoid, sternohyoid, stylopharyngeus, and inferior constrictor muscles; leaving—

4. Important functional structures retained in their normal relations for deglutition; and leaving—

5. A firm, natural support for the adjustment of artificial substitutes for the larynx.

For these reasons it is submitted that this procedure should be preferred to complete laryngectomy whenever not precluded by extent of disease.

PIMENTA (ALLSPICE) IN THE TREATMENT OF RHEUMATISM.—POULET has made a liniment by combining capsicine, the active principle of the plant, with liquid ammonia, when a soapy liquid results. The following are the proportions:

Pimenta	℥ 6¼.
Ammonia	℥ 3⅛.
Essence of thyme,	
Chloral hydrat.	āā ℥ 2½.
Alcohol (60°)	1 quart.

The allspice should be macerated in alcohol for a month, to which the ammonia is added. The chloral and thyme are added after expressing all fluid from the allspice, and the liquid kept in a hermetically sealed bottle. The substance so prepared is called *apone*, and may be used for friction about diseased joints; it may be used pure or mixed with olive oil. Internally from 10 to 20 drops of a tincture of pimenta may be taken in water or cold tea.—*Journal de Médecine*, June 19, 1887.

ACTINOMYCOSIS IN A GARDENER.—A case of actinomycosis occurring in the human subject is reported by Dr. Hanken, of Dortrecht, which appears to belong to what Dr. Israel classes as cases of migration of fungi through the mouth and pharynx. The patient was a gardener, aged thirty-four, who had nothing to do with the care of cattle. He applied for advice on account of long-standing dyspepsia. It was observed that there were four tumors on the lower jaw, situated between the left mental foramen and the angle of the jaw. They were movable and somewhat elastic on palpation. The teeth were fairly healthy, with the exception of the four second molars, all of which were carious; the roots, however, could be palpated without causing pain. The diagnosis appeared to lie between gummata and cold cutaneous abscesses due to irritation from carious teeth in a tuberculous subject. No sign or history of syphilis could be made out, so it was decided to draw the two diseased molars on the left side, open the tumors and scrape them out with a sharp spoon. The contents were found to consist of a viscous chocolate-colored fluid, in which opalescent granules, the size of a pin's head, were suspended; these proved, on microscopic examination, to be actinomycetes.—*Brit. Med. Journ.*, June 25, 1887.

THE TREATMENT OF CHRONIC URTICARIA.—MUSSY recommends the following:

℞.—Jaborandi pulv.,	
Ext. guaiac.	āā gr. 1½.
Lithii benzoat.	gr. 3.

For one pill.

Two in twenty-four hours for those suffering from chronic rheumatic urticaria.—*L'Union Médicale*, June 16, 1887.

HYPNOTISM IN MIDWIFERY.—In the *Gazette des Hôpitaux*, M. DUMONTPALLIER reports a case of delivery during hypnotic sleep. The patient, a young woman, aged twenty-four, was admitted into the Pitié Hospital in the sixth month of pregnancy, in order to be treated for pains in the uterus. The patient was easily thrown into hypnotic somnambulism by pressure on the vertex and by verbal suggestion; these measures were of themselves sufficient to relieve her pain. Later on, in the beginning of labor, hypnotism was again tried. The uterine contractions took place about every ten minutes, and lasted from one minute to one minute and a half. During somnambulism the patient distinctly felt the contractions, but said they were not painful; when not under hypnotic influence, however, the pains became intense, and she begged to be put to sleep again. Toward the end of labor the pain became so severe that it was found impossible to keep her in a state of hypnotism. During somnambulism the contractions were more powerful and shorter; the interval between them was only four minutes. M. Dumontpallier reserves his opinion as to the effect of somnambulism on the frequency and force of the contractions, and on the duration of labor. While the patient was in that condition she was perfectly conscious, and talked freely with the people about her. In making a comparison between the analgesia produced by somnambulism and that by chloroform in midwifery, the author states that they differ only in the fact that under chloroform cutaneous sensibility remains intact, while in the somnambulistic state it is extinguished.

PROSTITUTION AND INSANITY.—At the first (Moscow) congress of Russian Alienists, DR. PRASKOVIA N. TARNOVSKAIA, of St. Petersburg, communicated (*Vratch*, No. 9, 1887, p. 216) the results of the anthropometric examination of fifty habitual prostitutes, who had all been inmates of brothels for a period of not less than two years. For the sake of comparison he examined in the same way fifty peasant women of the same age, and, as far as possible, of the same intellectual development, etc. The results of this—probably unique—investigation may be summed up as follows: 1. The prostitutes presented a shortening, amounting to half a centimetre, of the antero-posterior and transverse diameters of the skull. 2. As many as 84 per cent. of habitual prostitutes showed various signs of physical degeneration, such as irregularity in the shape of the skull, asymmetry of the face, anomalies of the hard palate, teeth, ears, etc. 3. In 82 per cent of the prostitutes the parents were habitual drunkards. 4. In 18 per cent. of cases the prostitute examined was the last survivor of a large family of eight to thirteen children, all of whom had died at an early age. 5. These facts afford grounds for the belief that prostitutes, as a class, furnish the largest contingent of subjects predisposed to nervous and mental affections. There is no special work in any language on this subject, nor are there any statistics as to the number of prostitutes yearly admitted to asylums. Dr. Tarnovskaia urges the desirability of collecting such statistics for the purpose of determining the

part which professional prostitution plays in the causation of mental and nervous disease.—*British Medical Journal*, June 4, 1887.

AN APPLICATION FOR PRURITUS OF THE VULVA.—MÉNIÈRE advises the use of the following:

℞.—Zinc. oxid.	ʒ 1½.
Potass. bromid.	ʒ 2½.
Ext. cannabis indic.	gr. 30.
Glycerite of starch	ʒ 7½.

To be preceded by cold bathing.

When complicated by acne, applications of very cold infusion of black tea are useful.—*L'Union Médicale*, June 4, 1887.

EBERTH'S RODS IN TYPHOID STOOLS.—In the *Vratch*, No. 22, 1887, p. 438, DR. G. O. SHPOLANSKY, of the Odessa Town Hospital, writes that he and Dr. N. A. Stroganoff, prosector of the same hospital, have examined bacterioscopically stools in ninety-six cases of enteric fever, with the object of solving the following two questions of paramount practical importance: 1. Whether Eberth's microbes are present in all cases of the disease or not? and 2. Whether the microbes are still present in the stools of convalescent patients? The main outcome of their researches may be summarized thus. The typhoid bacilli were found in 90 of 96 cases. Of those examined, 88 recovered and 8 died. In one of the latter no bacilli could be detected in the stools during life. In one of three convalescent patients examined no bacilli were found after the temperature had finally returned to the normal range. In the remaining two the microbes were still daily discovered for nine and fifteen days respectively after the defervescence. In view of the facts stated under the first head, a bacterioscopic examination of the stools should be undertaken in every case where any suspicion as to typhoid fever may arise; and in consequence of those adduced under the second, the stools of the patients recovering from enteric fever cannot be considered innocuous for at least fifteen days after the defervescence.—*British Medical Journal*, June 25, 1887.

TINCTURE OF GREEN SOAP AS A VEHICLE.—UNNA, of Hamburg, in the *Monatshefte für Dermatologie*, No. 11, recommends this tincture originally advised by Hebra. He uses the following formula:

Sapon. virid.	100 parts.
Alcohol (95 per cent. or absolute)	50 parts.
Oil of lavender	½ part.

This solution dissolves, in equal weights, chloroform, ol. terebinthinæ, pix liquida, æther petrolei, benzin, æther; of carbon disulphide two-fifths weight at body temperature is dissolved. The utility of this vehicle to dermatologists is apparent.

FLUORIDES OF AMMONIUM AND IRON IN HYPERTROPHY OF THE SPLEEN.—DR. LUCAS reports in the *Practitioner* for June, 1887, his researches with these remedies as follows:

The fluoride of ammonium crystallizes in hexagonal prisms, dissolving readily in water, and the solution is colorless, but it acts on glass (for chemical reasons which I need not enter into here), going through it and escaping. To prevent this escape the expedient of coating the inside of the bottle with wax, so as to prevent the unstable compound in solution from coming in contact with glass, has to be resorted to; or the solution may be kept in India-rubber tubes or gutta-percha bottles. I adopted the first-named plan, and did not cause more of the solution to be made than was actually wanted for use. The strength of the solution employed by me was four grains to the ounce. Of this liquor ammonii fluoridii I began with five minim doses, diluted in an ounce of water, and administered thrice a day, after meals; and the dose, after a day or two, may be increased to 8 minims, then to 10, 12, 15, 18, 20, and so on, at intervals of a few days, the increase being effected gradually and cautiously; the great point to attend to is to insure the taking of this medicine after food, as otherwise gastric and intestinal irritation will be set up, while with this precaution it will be found to be fairly well tolerated in the majority of cases.

Certain physiological effects, more or less common to all the cases, were observed. Briefly, there was a marked influence on the blood-pressure, which had a downward tendency at first; the pulse fluctuated, and the number of beats was lessened. It was also found that the drug possessed antipyretic properties when the temperature ranged above the normal point, and it prevented attacks of ague, thus proving it to be an anti-periodic. In all the cases it produced nausea at first, though gradually a sort of tolerance appeared to have been established, and the drug could be borne in much larger doses. It produces some intestinal irritation, probably acting more on the duodenum, and giving rise to some diarrhœa. I am not sure that it has any action as a hepatic stimulant. The appetite, after a time, improves under its use. Almost all the patients complained of a pricking or twisting pain or uneasiness in the spleen itself, the original pain being sometimes aggravated. When given carefully and after meals, which should be the invariable rule, it is better borne and does not produce nausea and purging to the same extent. It certainly seems to excel any other method of treatment with which we are acquainted. Although I began with small (5 minim) doses, I should be disposed to start with 20 or even 30 minims diluted in an ounce or two of water, and administered always after a meal. The combination of iron with hydrofluoric acid, I am inclined to think, would prove more valuable on account of the hæmatinic properties of the former, and because as an adjunct it would exercise its astringent and tonic influence on the mucous lining of the stomach and intestines, and thus in a great measure tend to counteract the unpleasant effects complained of, and perhaps also to augment the evident specific action on the spleen. The fluoride of quinine can easily be prepared, and so, also, can the triple fluoride of iron, quinine, and ammonium.

HYOSCINE AS A HYPNOTIC.—KOBERT, of Dorpat, concludes from his studies of the action of hyoscine on the brain of normal men, that it is a feeble hypnotic which has no such influence over animals. In cases which other narcotics fail to affect, the repeated injection of $\frac{1}{150}$ to $\frac{1}{75}$ of a grain caused sleep and quietude without ill after effects.—*Deutsche medicinische Wochenschrift*, June 9, 1887.

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SATURDAY, JULY 23, 1887.

THE RESULTS OF PYLORECTOMY.

CONSIDERABLY more than one hundred cases of pylorectomy have been performed since Pean, in April, 1879, first demonstrated that a patient could survive some days after such a mutilation, and Billroth, that recovery was possible under the same circumstances. Since then various opinions have been held in regard to the justifiability of the operation, and in regard to the benefits to accrue from it; and carefully prepared articles have appeared in different lands and languages, in which the indications and contra-indications, the operative technique, complications, and the percentages of deaths and recoveries have been critically studied; but until recently sufficient time had not elapsed in which to learn the final results of the operation. Six years have now passed since the first successful cases were reported, and we are able to form a tolerably accurate idea as to the indications for the operation, the rate of mortality, and the final results in those cases which recovered.

The indications for the operation have been stated to be carcinoma of the pylorus, cicatricial stenosis, hemorrhage from the stomach, and perforation of the stomach, but only the first two need claim our attention at this time.

The pylorus has been excised for cancer many more times than for any other cause, and the death-rate is about 75 per cent., whilst that for cicatricial stenosis, whether from an ulcer or from the ingestion of caustic liquids, is about 50 per cent. The mortality of 103 cases of all kinds, collected by Richter, in August, 1886, was 72 per cent., and this percentage remains about the same in each series of statistics which have been published. In the hands of individual operators the mortality is not so great, thus the death-rate in Billroth's clinic has been 55 per cent., according to von Hacker, in his monograph, "Ueber die Magenoperationen an Prof. Billroth's Klinik, 1880, bis März, 1886." Not only, however, is the mortality much greater in the case of cancer than in that of cicatricial stenosis, but there is a great difference in their final results. There is no case known to us in which a radical cure has resulted from excision of the cancerous pylorus, death taking place in from four months to five years from a recurrence of the disease, either *in situ* or in more or less remote regions. Of 15 cases in which recovery occurred, 2 died four months subsequently, 2 in six months (one of these, however, succumbed to pneumonia), 1 in eight and a half months, 1 in ten months, 3 in twelve months, 1 in fifteen months, 2 in two and a half years, 1 in three, and 1 in five years, and 1 patient is reported alive at the expiration of two years. There is probably no case in which a permanent cure has been effected where the disease was cancer, the longest period of life having been five years and three months. In four or five cases of which we have knowledge, the patients were restored to a tolerable degree of usefulness, the gastric distress relieved, and normal digestion attained for a period of more than two years, and about an equal number for twelve or fifteen months, but the immediate mortality of the operation is so enormous, that the small respite enjoyed by the few scarcely counterbalances it. It must be confessed, however, that the future of the operation does appear to be rather less gloomy than it was some time ago.

In regard to resection for non-malignant stenosis, the matter is placed in much more favorable light, since those cases which do not succumb to the operation are permanently cured. At the recent Congress of German Surgeons, RYDYGIER, of Culm, reported the further progress of two cases, in which he had performed pylorectomy for ulcer. One of these, a woman, had survived nearly six years, had borne two girls, and was in good health at that time, another was alive when last heard from, about three years having elapsed; and a man upon whom Billroth had operated was in the enjoyment of perfect health at the expiration of three years. Rydygier advocates the operation in the case of ulcer of the pyloric end of the stomach, but this certainly does seem to be a severe and dangerous method for a non-malignant disease. If the ulcer was not situated exactly at the pyloric opening, it would seem to admit of some other treatment, either excision or cauterization with the thermocautery; whilst, if the pylorus was the first affected, a partial resection might be done. For cases in which cicatricial stenosis has occurred, we think the favorable results of

digital divulsion, as practised by Loreta, demand earnest consideration, as the mortality is very much less and the results appear to be good. In a case of cicatricial stenosis, Mikulicz made an incision in the length of the canal, and united the incision in the transverse direction, which had the effect of widening the strictured opening; but, unfortunately, the patient died on the third day of collapse. Heineke had also previously adopted this method.

An observation of Kocher's indicates that the dangers of pylorectomy do not cease with recovery from the operation, nor with the escape from recurrence of malignant disease, since in two cases upon which he had successfully operated, one died six months and the other three years subsequently, with decided symptoms of a fresh stenosis. This is a new experience, and may be due to the peculiar method of operating employed by this surgeon, in which the edges of the incisions were crushed with forceps previous to uniting the stomach and duodenum, Woelfler, on the other hand, stated that in his case. which survived five years after the removal of a scirrhus of the pylorus, there was no stenosis; the entrance into the duodenum was funnel-shaped, and pervious for the thumb, a four millimetre mucous fold occupied the seat of junction, whilst externally the seat of operation was no longer recognizable, and the sutures were not to be found.

Before leaving this subject, we wish to call attention more earnestly to the operation of gastro-enterostomy, or the formation of a fistula between the stomach and jejunum. It has been performed but a few times, and generally for inoperable carcinoma; but as it is easier to perform than resection, takes less time, and is not followed by so much shock, it certainly deserves a greater trial than has been bestowed upon it. It must be remembered that neither operation is radical, but only palliative, hence that which exposes the patient to the least risk ought to be given the preference. Hahn, of Berlin, expresses this same view, when he says the operation is a good one in certain cases, and is the operation of the future. He performed gastro-enterostomy on a man over two years ago, on account of carcinoma of the pylorus. The man was forty-six years of age, and had emaciated rapidly; and nothing appeared to pass the pylorus. Gastro-enterostomy was performed, and the patient gained fifty-four pounds in weight, ten of which were gained in three weeks. He was still alive and following his work when the case was reported.

In conclusion, we may state that pylorectomy is fatal in the proportion of about 75 per cent. in the case of carcinoma, and that of the 25 per cent. which survived the operation, death has occurred from recurrence in one year or under in 60 per cent., and that, as far as appears at present, not a single case has been permanently cured. In consideration of these facts, well may we pause before subjecting a patient to this dangerous procedure. We have long been impressed with the idea that gastro-enterostomy was indicated much more frequently than pylorectomy, an opinion which is held by Hahn also. The mortality after resection for cicatricial stenosis is about fifty per cent., and as these cases are radically cured, it is certainly permissible to operate, though the Loreta operation ought to be carefully considered.

THE DANGERS OF ANTIPYRIN.

APROPOS of the several editorials which have recently appeared in THE NEWS on the subject of antipyretics, it seems proper to call attention to the possibility of untoward symptoms being produced by at least one of them. While it is possible for any drug to produce evil effects when used in excess, there are some drugs which seem to bring about disagreeable consequences in those who by reason of idiosyncrasy are affected by small doses, as violently as the average person would be by an enormous amount.

As has already been pointed out in these columns, antipyrin is a very safe remedy, very few people having an idiosyncrasy in regard to its action, but, nevertheless, it is but right and proper that instances where its influence has been for harm rather than good, should be brought before the profession. Several instances in which cardiac failure and collapse have come on, have been reported, both in this city and elsewhere, within the last two or three years; and very recently, in the *Journal de Médecine de Paris* of May 29, 1887, attention is again called to the subject by the report of the case of a young woman, in the eighth month of pregnancy, who suffering from an attack of typhoid fever, accompanied with hyperpyrexia, was given cold baths for the reduction of the temperature. She was also given fifteen grains of antipyrin in divided doses. In a short time the temperature fell below normal, there were vomiting, cyanosis, hesitating and embarrassed respiration, and absolute relaxation, and collapse. The patient, however, recovered.

The action of drugs on persons readily affected by them, owing to idiosyncrasy, is so commonly met with, and yet so little understood, that it is impossible for the practitioner to be aware of such cases unless previous experience has taught him that any one patient belongs to this class, and it is the duty of every one to record such cases, since it is only by this means that we can obtain information which will aid us in laying down preventive rules.

It has been abundantly proved, both by the bedside and in the laboratory, that antipyrin is not a cardiac depressant, yet cases of cardiac depression

apparently from its use have certainly been reported. An important point as to the use of antipyrin in fever is that moderate doses will generally accomplish all that is desired, and we cannot help feeling that in many instances direct injury is produced by a disregard of this fact.

It has been proved by investigators that antipyrin in very large doses, instead of stimulating the inhibitory heat-centre, and thereby decreasing the production of heat, paralyzes it, and thereby causes an enormous rise of temperature, so that it is possible that in some of the cases reported, in which the temperature rose rather than fell, the dose of the drug was too large. On the other hand, it is easy to understand how in susceptible persons the inhibitory heat-centre may be so stimulated by a small dose that the production of heat falls below the dissipation, with a consequent lowering of bodily temperature and a necessary collapse. It is always advisable to give antipyrin, therefore, in small doses at first, in order to avoid dangers from idiosyncrasy and overaction of the drug; ten grains, we believe, will accomplish, as a general rule, all that we have been accustomed to expect from twice or thrice this amount.

FŒTAL MEASUREMENTS.

MOST obstetric authorities have taught that there is no difference in size between the male and the female pelvis at birth; in other words, that there is an entire absence of sexual characteristics. So, too, it has been claimed that the head of the male fœtus is larger than that of the female, the general size of the fœtuses being the same.

The recent measurements of thirty-three infants made by FRASCANI, however, prove that these statements are erroneous. Thus, while he found the bisacromial diameter about the same in the two sexes, the bistrochanteric and the bisiliac are greater in the female. He also found that in the male and female fœtus, of equal weights, the head diameters corresponded, and hence the opinion sustained by Sir James Y. Simpson, among others, that labor in case the child is male, will be more difficult because its head is larger, falls to the ground, for the labor is no more hindered than if the child were female, and of equal size.

It is to be hoped that Frascani's investigations will be continued by others, and if confirmed they will not only show quite conclusively that there is no difference between the sexes so far as original brain endowment is concerned, but also that nature begins in intrauterine life the preparation of the female pelvis for childbearing.

IPECACUANHA IN LABOR.

CARRIGEI, in the *Revue Médico-Chirurgicale des Malades des Femmes* of May 25th, states that from the remarkable influence ipecacuanha has over uterine hemorrhage he has been led to employ it as an oxytocic. He claims that it stimulates the uterus, and at the same time facilitates dilatation of the rigid os; under its use uterine contractions, hitherto very painful, but without effect upon the os, become changed, so that they have an active, expulsive character, and cause less suffering. The quantity advised is a grain and a half to three grains of the powdered root.

This practice is by no means new, though the quantity of the medicine advised is much less than that heretofore employed; we have known of the remedy being used more than thirty years ago in cases of tedious labor in the first stage, the delay resulting from a rigid os, and it was given in doses of five grains every ten minutes until decided nausea, if not actual vomiting, resulted. The beneficial result was attributed, not to any special action upon the uterus, but to the relaxation of the os which usually occurs in consequence of great nausea. But probably the treatment was never very generally followed, and has fallen into disuse. It certainly will be a very great gain if, with so simple a remedy, and in so small a dose, the first stage of labor prolonged by a resisting os, and attended with severe suffering, can be shortened and the pain lessened.

THE Medical Department of the University of Vermont held its Thirty-fourth Annual Commencement last Monday, and the degree of M.D. was conferred on fifty-three graduates.

THE toy pistol has this year, as formerly, occasioned not a few deaths by tetanus. A case recently came to our knowledge where a lad of twelve years died at the end of ten days after he had shot himself in the hand with one of these toys. The wound appeared to be slight, and the parents did not think it necessary to summon surgical aid until tetanic symptoms manifested themselves. It is to be hoped that the time will soon come when the manufacture and sale of these deadly playthings will be suppressed by the strong arm of the law.

A PRIZE of $5000 is offered by the Grocers' Guild of London, for an original discovery in sanitary science. The successful essayist is expected to discover a method by which vaccine may be cultivated apart from the animal body without loss of potency. The prize is known as the "Quadrennial Discovery Prize," and the subject above indicated is the same as that which was proposed during the four years, 1883–1886, and which failed of solution by any of the competitors. Competing essays will be received from any source, and must be forwarded on or before

December 31, 1890, to the Worshipful Company of Grocers.

WITH profound regret we record the death of DR. JOSEPH C. HUTCHISON, which sad event occurred at his residence in Brooklyn, on July 17, 1887, the result of renal disease, with complications of both cardiac and pulmonary sequelæ. Dr. Hutchison was the son of Dr. Nathaniel Hutchison, formerly of Booneville, Missouri, and he was born in that State in 1827. He graduated in medicine at the University of Pennsylvania in 1848, and spent the first four years of his practice in his native State, after which he removed to Brooklyn, where he soon enjoyed an extensive hospital and private practice, and was called upon to perform the most important and difficult operations of surgery. He was Professor of Operative and Clinical Surgery in the Long Island College Hospital for several years, and enriched surgical literature by numerous valuable contributions. He was the founder of the Brooklyn Orthopædic Infirmary, and its chief surgeon for many years.

As a physician he was distinguished for his study of cholera, having had charge of the Brooklyn cholera hospital during the epidemic of 1854; he had been also Health Commissioner of Brooklyn for several years.

Dr. Hutchison held positions of honor in the medical societies of Brooklyn and vicinity; he was a Fellow and formerly Vice-President of the New York Academy of Medicine, member of the New York Pathological Society, of the American Surgical Association, attending surgeon to the Brooklyn City Hospital, and consulting surgeon to the Kings County, St. John's, and St. Peter's hospitals. He was the President of the Long Island College Hospital, and ex-President of the Medical Society of the State of New York.

He was the author of a school text-book on physiology and hygiene, and a frequent contributor to the medical press. As a surgeon he enjoyed an international reputation. Very positive in his opinions, he was slow to assert them, and firm in convictions, he was tolerant of the views of others.

He was universally honored and esteemed, and his death is mourned alike by the profession and by his fellow-citizens.

DR. ARIEL BALLOU, one of the oldest and best known physicians of Rhode Island, died at Providence, on the 15th inst., aged eighty-two years. He was born in Cumberland, R. I., his father having been a Revolutionary soldier. He was, for a time, a student at the Berkshire Medical Institute, but was graduated from the Bowdoin Medical School, in 1830. Beginning practice at Woonsocket, R. I., he soon rose to the front rank of his profession, where he remained for nearly fifty-five years. About two years ago he withdrew from practice and removed to Providence.

Dr. Ballou was a man of genial, yet commanding, presence, and few men have been more highly honored and esteemed than he was, both as a physician and a citizen. He was President of the Rhode Island Medical Society in 1855–56, and one of its Censors ever since. He was a member of the General Assembly from 1842 to 1852, and introduced the bill for the abolition of capital punishment. He was President of the Board of Trustees of the Harris Institute, and of the Board of Corporators of the Woonsocket Hospital. In the Masonic order he had advanced to a high degree, being Past Grand Master of Masons of Rhode Island.

Dr. Ballou will long be remembered by his younger professional brothers as a most earnest, dignified, and honorable promoter of the interests of medical science and practice.

REVIEWS.

THE PRACTITIONER'S HANDBOOK OF TREATMENT, OR THE PRINCIPLES OF THERAPEUTICS. By J. MILNER FOTHERGILL, M.D., Physician to the City of London Hospital for Diseases of the Chest, etc. Third American from the Third English Edition. Pp. 660. Philadelphia: Lea Brothers & Co., 1887.

DR. FOTHERGILL is always interesting and instructive, and in this standard work he shows his peculiar power as a writer on therapeutics to the best advantage. Everything he undertakes is done conscientiously, and if at times he is not truly sound in the doctrines which he advocates, he, nevertheless, always commands our respect and attention.

The present edition, besides being carefully revised, has been enlarged by two chapters—one on "The Dietary in Acute Disease and Malassimilation," and one on "The Management of Convalescence," and is nearly one hundred pages larger than the first edition. A few years ago, in reviewing the first edition of this work, we took occasion to criticise the author's opinion on some subjects, especially that on the non-nutritive value of beef-tea. In confirmation of the view then expressed we have since found abundant experimental proof that this preparation is nutritive, and, therefore, not useless as a food.

In the Chapter on "Assimilation" the author evidently shows that he is not quite up in the latest work on the physiology of digestion, when he says (page 39) that "The first great function of the liver is to form glycogen from the sugar and peptones supplied to it from the intestines." We think it is now about two years since Hofmeister demonstrated that the peptones disappear in, and are absorbed by the white corpuscles of the intestinal mucous membrane, in the same manner as the oxygen of the air unites with the hæmoglobin of the red corpuscles, and are by them probably converted into some other form of albumen, since their identity as

peptones is lost here, and practically, therefore, they cannot reach the liver.

In regard to the artificial digestion of foods, we hardly think it advisable to commend the method so strongly as the author is inclined to do. Digestion is not such a simple function as it is believed to be, and since there is at present such a tendency to substitute the artificial for the natural it is well enough to take a conservative position on this question until its utility is proved beyond a doubt.

In conclusion, we would say that the book well sustains the favorable impression which it created at the beginning of its career, and in its present improved form will be welcomed more than ever by the busy practitioner and the scientific student of medicine.

CORRESPONDENCE.

ANTIFEBRIN AS AN ANODYNE IN SPINAL SYPHILIS.

To the Editor of THE MEDICAL NEWS,

SIR: In THE MEDICAL NEWS of June 11, and in the *British Medical Journal* of the same date, reference is made to Germain Sée's observations on the analgesic action of *antipyrin*. Dr. C. W. Suckling, in a note to the latter journal, states that he has tried antipyrin in "three cases of locomotor ataxia, in which the pains were severe, with relief in each instance," and "in one case, with complete abeyance." He states also that Lépine has found that *antifebrin* relieves the pain in this disease. Germain Sée, however, state that *antifebrin* is inefficacious as an anodyne in doses of less than eight grains, and that it is dangerous in larger doses than this, it having been found that larger doses sometimes cause grave alterations in the blood, converting the hæmoglobin into metahæmoglobin (*L'Union Médicale*, April 26, 1887), and for these reasons he prefers antipyrin, the use of which is not attended, in his opinion, with equal disadvantages.

The same objection, viz., that a condition of cyanosis is sometimes caused, has also been urged against antipyrin, and I think that in the employment of both these drugs we should keep a careful lookout for the occurrence of symptoms pointing to imperfect oxygenation of the blood. I have given antifebrin to perhaps twenty patients suffering from typhoid fever and from the hectic fever of phthisis, and have rarely found it necessary to exceed five grains at one dose, in order to get a decided effect from this drug.

In the case of spinal syphilis, to which I now refer, the pains, which were severe, yielded to five grain doses of antifebrin. The pains were due, I believe, to gummatous infiltration of the posterior columns of the spinal cord. The patient contracted syphilis twenty-two years ago, and when I first saw him, ten years after the primary lesion, he complained of severe intercostal pains; so, even at that time, it is probable that there had been some infiltration of the spinal cord. A few months later *right* optic atrophy occurred, and hearing in the *left* ear became much impaired. At about this time paralysis of the facial muscles and hemianæsthesia of the tongue occurred. In 1880 he had a fall on his head, and, a little while later, was found to be suffering from mental aberration and was treated for some months at the Insane Department of the Philadelphia Hospital, and, later, at the Norristown Asylum.

In 1881 there was marked paresis of the left leg, and severe intercostal and girdle pains were complained of. Under specific treatment, the pains diminished in severity, but, since another attack of left hemiplegia last autumn, they seem to have occurred more frequently and with greater severity. They were described as sharp, cutting pains, and extended from the upper intercostal spaces to the sacrum and also along the course of both sciatic nerves, more particularly the left. There has been, at no time, any paralysis of the bladder.

On June 22d, having administered several quarter-grain doses of morphia with the effect of giving him only temporary relief, I ordered him antifebrin (grs. v) to be taken whenever pains were particularly severe. One week later patient stated that he had not felt so well for a year. The first powder checked the pain in less than half an hour. When the pains recurred they seem to have been less violent, and, each time, five grains of antifebrin sufficed to check them, and so, after five days of this treatment, and after taking forty or fifty grains of antifebrin, patient is, temporarily at least, entirely free from pain.

July 8th. Patient has had slight recurrence of the pains during the past week, but they were apparently far less severe than they were before. No sweating and no prostration were caused by these doses.

Yours, etc.,
HENRY M. FISHER.

PHILADELPHIA, July 11, 1887.

A LETTER FROM STRASSBURG.

Septic Cyst in the Abdomen—Removal of the Ovaries for Myoma—Phosphorus in Rachitis.

THE most interesting case of the past week in any of the clinics here, was in the gynecological clinic of Prof. Freund. The patient was thirty-one years old, married, and the mother of three children. The family history was good, except that a grandmother had died with tuberculosis.

Two years ago the tumor was accidentally discovered by a physician who was called to prescribe for some derangement not dependent upon the presence of the growth. At this time she was pregnant and passed through her pregnancy and confinement without mishap. The tumor, however, began to grow very rapidly, and several weeks after confinement it was tapped and three quarts of light straw-colored fluid withdrawn. No accident or bad effect followed this puncture, but before many months had passed, the tumor began to grow again. The patient became pregnant and was delivered at term—three months and a half ago. The tumor again began to grow rapidly and became so large that the physician again punctured it, five weeks post-partum. The contents were of the same character as at the time of the first tapping, but the result was different. The canula infected the tumor and suppuration within the sac resulted. It filled again in a very short time and the patient had fever and chills. Her physician determined to insert a canula, and leaving it in situ to wash out the sac every day, which he accordingly did nineteen days before she was brought to the hospital. But

unfortunately the canula must have slipped out of the cyst and remained buried in the abdominal wall, where the injections of iodine were consequently made, causing the formation of a large abscess cavity, which had dissected its way between the layers of the abdominal wall. This canula was left in for two weeks and the injections made with great regularity. But as the patient's condition was rapidly growing worse, she was finally sent to the hospital. Her temperature varied between 38° and 40° C. Her strength was gone. The abscess in the abdominal wall was discharging an exceedingly offensive pus. Her face wore an anxious expression, and she seemed to all to be on the brink of the grave.

Prof. Freund very soon decided that delay would be fatal, and that her only chances lay in an immediate operation, which he proceeded to perform by opening the abdomen in the linea alba below the umbilicus. The abscess was in the side and toward the crest of the ilium. The tumor was found closely adherent to the anterior abdominal wall throughout the entire length of the incision, which was then immediately lengthened upward until the upper edge of the tumor had been passed and it was possible to get into the abdominal cavity. Then began a most tedious dissection. The adhesions anteriorly to the abdominal wall were carefully broken through. The abscess was now found to have no connection whatsoever with the tumor. The omentum, small intestine, sigmoid flexure, and uterus were all intimately adherent to the tumor. Finally the pedicle was reached. It was twisted several times upon its long axis and a fold of small intestine was twisted with it and adherent to it. The contents of the tumor, which was semi-solid, were offensive in the extreme. A large mass of necrotic tissue was found in the cavity surrounded by fluid and gas, the result of the infection and consequent putrefaction. The intestine and colon wherever their peritoneal covering had been torn loose in the dissection, were now covered with peritoneum as far as possible by means of catgut sutures, the pedicle carefully ligated, the opposite ovary, which also contained several small cysts, removed, and the abdomen closed after irrigation with a solution of salicylic acid.

Toward the close of the operation the patient was in a very bad condition. The shock of such a tedious, protracted operation threatened to prove fatal, but she was almost instantly relieved by a rectal injection of hot red wine with a few drops of the tincture of opium. The result of this injection was simply marvellous; pulse and respiration improved in a very short time, and the abdomen was rapidly closed without any provision for drainage. The abscess was opened, its walls scraped out with the sharp spoon, and dressed with iodoform.

The next morning there was no fever and the only unfavorable symptom was the chloroform vomiting, which, however, ceased in the afternoon. The second and third day passed without an unfavorable symptom. The further course of the case will be reported in my next letter.

Prof. Freund accounted for the twisting of the pedicle by the fact that the patient had been pregnant twice, and that the tumor was probably turned partly around by the increasing size of the uterus as the pregnancies advanced on the one hand, and by its rapid diminution in size after the birth of the children on the other. The intestine was probably adherent and so was drawn around after the pedicle.

A slight parotitis with some fever was the only interruption to an otherwise rapid recovery. Such triumphs as this, are, unfortunately, not common, but the very fact that success is possible even in the face of such unpromising conditions as existed in this case is encouraging to those who are reluctant to accept the responsibility of advising any interference in desperate cases. The possibilities of abdominal surgery have long since exceeded the limit which only a few years ago could not have been passed without exposing the operator to criticism.

Judging from the past, it is confidently to be expected that this field must still be enlarged in the near future, and this operation is significant of the direction in which this enlargement is gradually taking place—*i. e.*, the indication for operating to combat septic inflammatory processes of and within the peritoneal cavity.

The same operator recently removed both ovaries from a patient in the thirties, on account of a large intramural myoma of the uterus. The almost continual hemorrhages had so weakened her that she was unable to attend to her household duties. A vaginal examination revealed a tumor which gave an indistinct fluctuating sensation to the finger, and which from its position in the left side of the pelvis so concealed the left ovary that the presence of the latter could not be determined. A positive diagnosis was, therefore, not made, but from the clinical history a uterine tumor was thought probably to be present.

The operation, which was performed in the new hospital, was conducted under the most careful antiseptic rules. The operating room, with its polished hard wood sides and tiled floor, kept scrupulously clean and neat, is certainly a model chirurgical work-room, and offers no congenial resting-place to septic germs. The few invited guests were politely requested to cleanse their hands in a disinfecting solution, and to clothe themselves in a long linen garment before entering into this temple of cleanliness. The only exception was in the case of three students who appeared in full evening dress. Prof. Freund remarked, that clinical teaching to a large class is impossible in abdominal surgery and, therefore, he has the students come in small divisions in order that each one can see every step of at least one operation. It is true not only of abdominal surgery but of all other branches, that students profit but little from surgical clinics as far as the minutiæ, upon which everything depends in so many cases, are concerned. The science of surgery can be taught to large classes but the art cannot be.

The bleeding and oozing in the incision through the abdominal wall was completely controlled before the peritoneal cavity was opened. The exploration of the cavity revealed a tumor, soft but not fluctuating, in the uterine wall. The right ovary was normal, but the left one was enlarged, and in the left Fallopian tube a small cyst was found.

The right ovary was first removed. Its base was securely ligated by transfixing the broad ligament immediately beneath it in several places with a needle threaded with silk. The base thus perforated was first ligated in sections, and then *en masse* in the usual manner. The ovary was now cut away, leaving a large

stump above the ligatures. The operator now pressed all of the fluids out of the tissues in the stump by means of a sponge, in which it was entirely enveloped. When the sponge was removed the stump remained a moment colorless, but as the vessels filled with blood the pink color gradually returned, and a few drops of blood appeared upon the cut surface. A new ligature was thrown around and tied very tightly, the stump again pressed out, and the same manœuvre repeated, until finally it remained entirely bloodless.

The stump was now secured in a clamp with broad flat arms (Langenbeck's) about a fifth of an inch above the line of the ligatures, the tissues above the clamp seized with a pair of toothed forceps, and cut off with the thermocautery, which was passed along the surface of the clamp. This process left a short stump, securely ligated, from whose surface no oozing could possibly take place. The left ovary and the small cyst near it were removed separately in the same manner. The incision was closed with wire and silk sutures, without drainage. The patient made a prompt recovery without a single unfavorable symptom.

In the Children's Clinic here they do not make as favorable a report of the action of phosphorus in rachitis as has come from other sources. The rachitic material here, as in other unhygienic and overcrowded European cities, is very large. Phosphorus was tried perseveringly, as it is claimed, without an improvement in any case that might not as well have been attributed to the improved diet and hygienic surroundings which the hospital offers to the little unfortunates who find their way within its portals.

Phosphorus has proved, in some hands at least, of the greatest value in this disease. The results are not, as a rule, as prompt as the first publications gave reason to expect, but they are, nevertheless, undoubted, and when the cases have not gone on too far, may be confidently expected. Your correspondent can refer to the records of a Children's Polyclinic which will corroborate all of the above, and which will probably, in the near future, be published.

NEWS ITEMS.

DR. C. B. NANCREDE, of Philadelphia, is delivering the Course of Lectures on Surgery at Dartmouth College, in the absence of Dr. P. S. Connor, who has gone to Alaska on a journey undertaken to restore his health.

THE EXPOSITION OF THE HYGIENE OF INFANCY AT PARIS.—This exposition was opened, on June 24th, by an address from its president, the recitation of a poem, and by music from the Guard of the Republic. It embraces all possible appliances for maintaining the lives of infants, and all substances and articles known to be of value in treating the diseases of infancy.

During the exposition open conferences will be held morning and afternoon, the first of which will be reserved for mothers. Vaccination will be performed every Monday.

EXHIBITION AT WIESBADEN.—A scientific exhibition will be connected with the Sixtieth Congress of German Naturalists and Physicians, to be held in Wiesbaden from the 15th to the 24th of September. It will be strictly scientific, not mercantile, and its purpose will be to show at a glance the latest and most perfected instruments and apparatus which have been placed at the disposal of science and medicine in the last few years. The following groups will form part of it: surgery, physical diagnosis, and therapeutics; ophthalmology, gynecology; laryngology, rhinology, and otology; orthopedics, dentistry, chemistry, instruments of precision, with subdivision for microscopy; instruments and apparatus aiding instruction in natural history, geography, equipment for scientific travel, photography, anthropology, biology and physiology, hygiene, electro-therapeutics and neurology, and pharmacology.

THE VIENNA GENERAL HOSPITAL.—Hofrath Dr. Hoffmann having retired from the post of Director of the General Hospital, Vienna, Professor Böhm has been appointed to this most important office, the said hospital being, we believe, the largest hospital in the world.

The charges recently made against this hospital in the Austrian Parliament were not sustained upon investigation.

OPPOSITION OF THE RUSSIAN GOVERNMENT TO THE STUDY OF MEDICINE BY WOMEN.—Not content with closing the academies for women at St. Petersburg, Moscow, and Kiew, the Russian Government has increased the tax for passports to students going to study in Switzerland (which offers excellent advantages to women), from ten to twelve roubles monthly, a sum which will make it impossible for many poor women to study medicine.

VACATION CLASSES AT VIENNA AND BERLIN.—The programme of medical courses of instruction at Vienna during the months of August and September has been issued. The number of such classes is now very large, and of their convenience for foreigners there can be no question. Most of them are complete within a month, meetings being held daily. Amongst them may be noted those on morbid anatomy (Dr. Adolf Zemann); pathological histology (Dr. Kolisko); bacteriology (Prof. Weichselbaum and Prof. von Frisch); medical diagnosis (Drs. von Frisch and E. Neusser, Drs. Bamberger and Lorenz, Drs. von Langer and Heitler, and Dr. Drozda); diseases of the organs of circulation (Dr. Bettelheim); diagnosis of brain and spinal cord diseases (Dr. Benedikt); and the pathology and treatment of nervous diseases (Prof. Rosenthal). There are also courses on forensic medicine, urinology, practical and operative surgery, ophthalmology (no fewer than seven different courses), gynecology, laryngoscopy, otology, dermatology (Prof. Kaposi and Dr. Riehl), syphilis, etc. An even more complete series of post-graduate classes of a like kind will be held in Berlin, from the 26th of September to the end of October, of which the announcement will be found in the *Berliner kliniker Wochenschrift* of June 27, p. 483.—*Lancet*, July 2, 1887.

A PARALLEL TO GUITEAU'S CASE.—M. Deny, one of the physicians to the Bicêtre, while making his rounds on June 17th, was attacked by an insane patient, who attempted to stab him in the abdomen with a sharpened

table-knife. The attack was fortunately frustrated. The same patient, in November, 1885, demanded from de Freycinet the payment by the Government of a considerable sum in recompense for the death of a child in Panama. He was examined and pronounced insane, his malady being characterized by ideas of grandeur, persecution, refusal of a just claim, and revenge, similar to those which led Guiteau to assault the President. When questioned, he avowed his determination to repeat the assault.—*Le Progrès Médicale*, June 25, 1887.

PARALYSIS FROM EARTHQUAKE ELECTRICITY.—The Paris correspondent of the *Lancet* of June 11, 1887, writes as follows regarding a case resulting from the earthquake at Nice: "Dr. Onimus relates a case of nervous disturbance (Société de Biologie) of unusual interest. The subject was a strong, vigorous man, not easily impressionable, and incapable of deceit. He was at the time in charge of a fort. There were, it will be remembered, three distinct commotions, the strongest at six, another soon after, and a third, much weaker, at nine o'clock. The patient was sending a telegraphic message, and, happening to have two points in contact with the metal of the transmitting apparatus, felt a violent shock, and lost consciousness for ten minutes. During the remainder of the day he felt giddy and weak, but has no recollection of *phosphènes* at the occurrence of the shock. Two months later he complained of constant headache, and fibrillary contractions in the muscles of the limbs. The right arm was paretic, and the extreme weakness was confirmed by the dynamometer. Besides tremor and painful localizations along the median nerve, there was a considerable decrease of sensibility, the finger-tips scarcely recognizing a separation of twelve millimetres between the points of the compass. The paralysis of the face was on the left side, and consisted of ptosis, accompanied by blepharospasm. This crossed or alternate paralysis is what is seen constantly as a result of a powerful electric shock; but in this case the symptoms have been more serious and persistent. At the present time there is little if any improvement."

THE SWEATING SICKNESS IN FRANCE.—There can be no doubt that the epidemic which has broken out in the Departments of Vienne, Haute-Vienne, and Indre, is an idiopathic miliary fever, the historical sweating-sickness. Dr. Daremberg has written an important letter on the subject to the *Journal des Débats* (June 25th). He has accompanied Drs. Chantemesse and Thoinot to Montmorillon, the centre of a district where more than 4000 cases, with 300 deaths, have occurred. The disease is characterized by a profuse sweat, and an eruption of small miliary vesicles. M. Littré believed that the disease was known to Galen, but the first authentic epidemic was the *Sudor Anglicus*, "Sweating-sickness," or *Suette Anglaise* of 1485, well known to historians. It was very fatal, according to Delaune, in London in that year, and Stow records that in 1499 it raged in the metropolis, so that Henry VII. and his court removed to Calais. In 1506 and 1507 the epidemic was terrible; Oxford was depopulated. In 1529 an epidemic ravaged Europe. In the seventeenth century it appeared in France and Germany; the mortality was less, but the miliary rash appeared in every case, whilst in the first epidemic it was rare. But Dr. Daremberg shows that the patients in the English epidemic of 1485 mostly died within a few hours of the appearance of the first sweat, before the rash had time to develop. Precisely the same thing has occurred this year, several patients having died in two or three hours without any trace of rash. In the same district very mild cases have occurred, the patients being confined to their beds for a couple of days and then able to work. As in an epidemic in Poitou in 1843, and another in the Aude in 1864, the epidemic was preceded by many cases of eruptive diseases mistaken for measles. The troops of the garrison of Poitiers suffered severely from this "scarlatiniform measles." The first case of sweating-sickness this year occurred on April 16th in the commune of Saulgé. In the town of Montmorillon (5128 inhabitants), 47 persons died of the epidemic between May 3d and June 19th. At Moulismes (940 inhabitants), there have been 45 cases and 16 deaths—the mayor, two other officials, and the wife of one of those magnates dying within a few hours. At St. Remy (893 inhabitants), there have been over 50 cases. In five or six communes, hardly a dozen people have escaped infection. The more recent cases have been mild. Dr. Daremberg found that the patients had little pyrexia, dyspnœa, or palpitations. They had profuse perspiration and an eruption, in some cases resembling measles, in others scarlatina, but always vesicular. The vesicles on the tongue formed ulcers. The patients felt no prostration and little loss of appetite. The earlier cases were of quite a different type. The patients showed the worst symptoms of malignant fever, profound depression, violent delirium, syncope, epistaxis, and intestinal hemorrhage. A great number of intermediate forms proved the identity of the very bad and the very mild cases. The alleged anomalous forms of measles seen in the same district are also forms of sweating-sickness. Drs. Brouardel, Chantemesse, Descout, and Thoinot have inspected the infected communes, and enforced, through the sanitary authorities, disinfection by means of sulphurous and carbolic acid. The peasants at first objected to these measures, and dreaded the damage which the acids might inflict on their furniture. They preferred the common French placebo, infusion of lime-tree blossoms, to quinine; and when stricken, they closed their windows and piled eiderdown quilting and blankets over their bodies, notwithstanding the intense heat of the weather and the fetor developed by the practice. Dr. Daremberg believes that the disease is infectious. Another medical correspondent, signing himself "Dr. G. D.," writes to the *Journal des Débats*, noting the fetid perspirations, the measles-like variety, and the extreme infectiousness of the disease. Some recent cases of so-called measles at Bourges appear to him to be sweating-sickness. "Dr. G. D." reports that the activity of the sanitary authorities is rapidly extinguishing the epidemic. We trust that it may only reach this country in the form of abstract discussion at the Epidemiological Society or elsewhere; fortunately it is very unlikely to cross the Channel, or even to reach Paris.—*British Medical Journal*, July 2, 1887.

From *Le Progrès Médical* of July 2, 1887, we learn that this disease is decreasing, and that physicians have been sent from the Paris hospitals into the infected districts.

SMALLPOX HOSPITALS.—One of the important subjects connected with sanitary administration is the location of smallpox hospitals in towns and cities. For the sake of the patients who are removed to these institutions, it is very essential that the distance which they are transported should be as little as possible; while, on the other hand, for the protection of the public, such hospitals should be situated so far from the inhabited portions of the towns as not to be a factor in the spread of the disease. Mr. W. H. Power, a medical inspector of the English Local Government Board, has given especial attention to this subject, and the evidence accumulated by him seems to indicate that a smallpox hospital in a town causes a greater incidence of smallpox in the vicinity. Within an area contained by a circle described three-quarters of a mile from the West Ham smallpox hospital, the death-rate from this disease was never less than twice, and sometimes even ten times, greater than the general rate; the number of cases showing a progressive decrease as the distance from the hospital increased. Mr. Power has studied the theories that the wind was a factor in this increase of cases near the hospital, and that the nurses and others were the channel of communication, but has found them inadequate to explain all the facts.—*Science*, May 20, 1887.

A POPULAR REMEDY FOR IVY POISONING.—A writer in *Popular Science News* for June, 1887, says as follows:

I have always been extremely susceptible to the poison of poison ivy and oak so as to give me great annoyance, unless it is immediately checked on its first appearance. This common washing-soda accomplishes for me, if properly applied. I make the application by saturating a slice of loaf-bread with water, then cover one surface with soda, and apply to the eruption, the soda next the flesh. When the bread is dried by the animal heat, I drop water on the outer side so as to keep it thoroughly moistened, and dissolve the soda crystals in contact with the skin. This, you will perceive, is merely a bread poultice; the bread being a vehicle through whose moisture the soda reaches the humor. I find that the washing or bathing with soda water, even continuously, will not suffice with me. My skin requires the heat and moisture of the bread in order for the soda to act on and neutralize the poison. I rarely have need to retain this soda poultice for more than thirty minutes on any affected part. No pain ensues. Formerly I suffered often for weeks, as the poison would spread all over my body. Now thirty minutes measure the duration of its exhibition.

FRENCH LAWS AND USAGE REGARDING THE INSANE.—The case of Baron Seillière, who spent some time in the United States, has attracted considerable attention to the French laws regarding the adjudgment and incarceration of the insane. The Paris correspondent of the *Lancet* writes as follows, under date of July 2d:

"A well known member of society, Baron Seillière, has been somewhat hurriedly transferred to the *maison de sante* (as lunatic asylums are more discreetly termed in France) of the celebrated Dr. Falret. A sharp controversy has arisen in the press in consequence of this sequestration, and many of the writers are loud in denouncing the state of the law on the subject, and in abusing all those concerned in administering it. Baron Seillière bitterly complains of the whole proceedings. He declares his family laid a plot to entrap him. 'I may have been eccentric, I may have spent money freely, but many a man in my position has done the same. If I have made bad speculations, I have also made successful ones, and as I neither think, speak, nor write as a madman, I consider myself the victim of an unjustifiable attack.' On the other hand, Professor Charcot, who has interviewed the patient on behalf of his family, declares him to be insane. As I have already hinted, the comments of the press upon mental physicians and their doings are far from complimentary; and although there is no doubt a great deal of exaggeration some of the statements made are not entirely devoid of foundation. It is an aphorism amongst French alienists that any person in Paris presenting signs of excitement should, in the absence of a satisfactory explanation, be suspected of general paralysis. Not only are the Parisians privileged in counting in their number the highest percentage and the most eminent sufferers from the *maladie du siècle*, but it is said also that Paris has a special attractive influence for general paralytics as a class. Given, then, a person in a state of excitement, he would, if he had the misfortune to be examined by an expert, run a very fair chance of being sent to an asylum. Once there, any explosion of indignation would be taken as additional evidence of the necessity of the measure, and if the victim were not calmed by being cut off from the world, and soothed by the application of a *camisole de force*, no sane alienist would entertain any further doubt as to the nature of his case. The lawyers maintain, and this is the practical outcome of the whole matter, that the *affaire Seillière* shows the urgent necessity of a change in the present law concerning the insane. As it is, they say, once a man has fallen into the hands of the alienists, the machinery of the law is powerless to help him. He may, at the discretion of his keepers, be separated from the whole world, and even subjected to solitary confinement. Should those interested in his welfare think they have cause to complain, they are hardly able to obtain an independent examination. Those who have the patient in charge can refuse access to all except the expert commissioned by the courts in each particular instance; but as in lunacy practice the expert of to-day is often the alienist of to-morrow, the patient may benefit but little by such a consultation."

A MOVABLE SHEET FOR THE SICK.—DR. ROCHE describes the following device in the *Popular Science News* for May, 1887: I have found the following a valuable arrangement for the sick needing change of position, or, as is often the case, a weak nurse to perform the labor, or in cases of surgery, where the safe and easy movement of the patient is necessary:

Fasten smoothly to the mattress, with strong safety-pins, a rubber blanket or piece of enamelled cloth, rubber or enamel side up. Upon this, place a similar rubber or enamelled cloth, if possible somewhat wider, so as *always* to keep the under one covered. Cover with a sheet, and make up the bed as usual. Between the rubber or enamelled surfaces sprinkle soapstone powder, kept by all shoedealers, or glove-powder; or,

if nothing better can be had, the common graphite, known as stove-polish, will do. Now, by grasping the edge of the under sheet and upper enamelled cloth at the same time, it will be found easy to *roll over* or move the heaviest person with slight effort, and little pain or straining, either to nurse or patient.

If the device prove too slippery when not wanted, a few strong pins fastening it to the bedding beneath will prove sufficient to prevent it.

A CLERGYMAN'S VIEW OF THE FAITH AND MIND CURES.—The faith cure and the mind cure are at the present time attracting a great deal of popular attention; and almost daily cures are announced, under this treatment, of persons who have, under all other methods, remained chronic invalids. It is not to be wondered at, that physicians denounce this treatment as charlatanism, but it was hardly to be expected that one of the most potent arguments against the validity of its claims should come from one of the clergy. In a recent sermon on this subject, Rev. E. C. Ray, of Hyde Park, Ill., says, "Apparent cures are often followed by a relapse, temporary improvement by permanent decline. From reported cases of cure we must deduct many of unreported relapse: it is not in human nature, when a wonderful cure has been published abroad, to follow it up with an account of the relapse coming afterward. Mistaken diagnosis accounts for many supposed cures. Physicians often, patients more often, mistake the nature of a disease. Temporary swellings are called malignant tumors or cancers (thus cancer doctors get their reputations); hysteria simulates almost every other disease, so as to deceive even the most elect of doctors; dyspepsia produces symptoms of heart disease or other deadly illness. There can be no question that a large proportion of faith cures and mind cures, and a considerable proportion of cases under ordinary medical treatment, are cases of mistaken diagnosis, the disease being less serious in its nature than was supposed. Mistaken prognosis accounts for many cases; mistake as to what would be the outcome of the disease if no curative methods were employed. It is a truth seldom recognized by patients, though well known to physicians, that in most cases not hopelessly fatal from the start, there is from the start a strong tendency toward recovery. Dr. Austin Flint, Sr., than whom perhaps no abler physician has lived in this land, always urged upon his students the truth that not drugs, but *vis medicatrix naturæ*, the healing power of nature, is the means of recovery. The wise physician and nurse seldom attempt more than gently and humbly to assist Nature in her curative processes. Let me add the statement of a conviction derived from some years of such close scrutiny of medical practice of various schools as a pastor has good opportunity for—a conviction agreed to, I think, by most physicians. The benefit of medicine is often not its direct action upon the disease or upon the body, but its action upon the mind, and through that upon the nervous system and the whole body, stimulating faith, hope, expectation of recovery, good cheer, which are probably nature's mightiest remedial assistants."—*Science*, May 27, 1887.

ELECTRIC ENDOSCOPES.—At the late German Congress of Surgeons, NITZE, of Berlin, and BRENNER, of Vienna, exhibited electric endoscopes which had been proved successful in the examination of the interior of the bladder.

MAREY'S ODOGRAPH.—MAREY, of Paris, has invented an apparatus for recording and estimating the speed of a man's walk, and the course taken by a man or group of men. The apparatus is not yet perfected, but it will be applied to the study of many physiological problems connected with the conservation of human energy in which accurate observation is desired.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 12 TO JULY 18, 1887.

MATTHEWS, W., *Captain and Assistant Surgeon.*—Assigned as member of Army Retiring Board, at Washington, D. C.—*S. O. 159*, par. 2, *A. G. O.*, July 12, 1887.

SKINNER, J. O., *Captain and Assistant Surgeon.*—Relieved from duty.—*S. O. 159*, par. 2, *A. G. O.*, July 12, 1887.

MAUS, L. M., *Captain and Assistant Surgeon.*—Ordered to accompany the Eleventh Infantry in changing station from the Department of Dakota to the Department of the East.—*S. O. 158, A. G. O.*, July 11, 1887.

PERLEY, H. O., *Captain and Assistant Surgeon.*—Ordered to accompany the Eleventh Infantry in changing station from the Department of Dakota to the Department of the East.—*S. O. 158, A. G. O.*, July 11, 1887.

GARDNER, E. F., *Captain and Assistant Surgeon.*—Ordered to accompany the Twelfth Infantry from Madison Barracks to Duluth, and to return with the Eleventh Infantry.—*S. O. 143, Division of the Atlantic*, July 13, 1887.

EBERT, R. G., *Captain and Assistant Surgeon.*—Will, in changing station from Fort Hamilton, New York Harbor, N. Y., to Fort Custer, Montana Territory, accompany the Twelfth Infantry from the East to the Department of Dakota.—*S. O. 159, A. G. O.*, July 12, 1887.

WALKER, F. V., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for four months.—*S. O. 160, A. G. O.*, July 13, 1887.

CABELL, JULIAN M., *First Lieutenant and Assistant Surgeon.*—Ordered for duty as medical officer at Department Rifle Camp, near Bellevue, Nebraska, August 1st, next.—*S. O. 66, Department of the Platte*, July 8, 1887.

A board of medical officers, to consist of *Major and Surgeon* J. S. BILLINGS, *Captain and Assistant Surgeon* W. MATTHEWS, and *Captain and Assistant Surgeon* F. C. AINSWORTH, is constituted to meet in this city, for the examination of a candidate for admission to the Medical Corps of the Army.—*S. O. 157, A. G. O.*, July 8, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JULY 16, 1887.

LONG, W. H., *Surgeon.*—Granted leave of absence for thirty days, on account of sickness, July 12, 1887.

AUSTIN, H. W., *Surgeon.*—Granted leave of absence for thirty days, July 16, 1887.

WATKINS, R. B., *Assistant Surgeon.*—Relieved from duty at Marine Hospital, Detroit, Michigan; ordered to assume charge of service at Evansville, Indiana, July 9, 1887.

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